MODERN METHODS OF REHABILITATION OF THE ADULT DISABLED

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MODERN METHODS OF REHABILITATION OF THE ADULT DISABLED

REPORT OF A GROUP-TRAINING COURSE
ORGANIZED BY THE UNITED NATIONS

with the co-operation of

THE WORLD HEALTH ORGANIZATION and
THE INTERNATIONAL LABOUR ORGANISATION

Held in
SWEDEN, FINLAND and DENMARK
8 September - 7 November 1952

UNITED NATIONS

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ST/TAA/SER.C/4

25 November 1952

UNITED NATIONS PUBLICATION

Sales No.: 1952.IV.19

Price: $1.25 (U.S.)
(or equivalent in other currencies)

FOREWORD

The Second World War, and the destitution and suffering which followed in its train, have left behind them a grievous legacy in the form of physical disablement. Direct war injuries, malnutrition and the dislocation of normal hospital services have all contributed to the great army of disabled people who are to be found all over the world today. But, apart altogether from war, crippling diseases of many kinds and the severe injuries produced by increased industrialization and the speed of modern transport add an even heavier annual toll to the number of those who suffer from severe physical handicap and whose maintenance and treatment place a serious burden on their families and upon the national economy of the countries in which they live.

Even in countries in which unemployment is often present on a large scale, or in which there is not a demand for increased manpower, the presence of large numbers of disabled men and women raises serious moral questions ; for these unfortunate victims of disease or injury are fellow human beings, whose right to an adequate standard of living and to social security is expressly proclaimed in Article 25 of the Universal Declaration of Human Rights. Every effort must be made to alleviate their lot, and to give them a chance of regaining independence and securingwork.

Fortunately, these last few years have witnessed an immense advance of knowledge on what can be done for the physically handicapped child or the disabled adult. Instead of regarding them as mere objects of charity or only as suitable recipients of pensions, increasing thought is now directed, and with marked success, towards the possibility of restoring their physical capacity, assisting them to overcome their handicap, and enabling them to become, wherever possible, independent, contented and self-supporting members of the normal community.

Such a process of rehabilitation, as it is now commonly termed, can be successfully accomplished only by the closely co-ordinated work of a variety of services—medical, educational, social and vocational—integrated within the national health and social systems of each country. It was the primary purpose of the Group-training Course, whose proceedings are described in the following pages, to study each aspect of this service, and to discover how such co-ordination and integration could be made effective.

The succeeding chapters of the Report, and the Appendices which follow, are not, however, merely intended to serve as an historical record of a particular experiment in group-training. Their main purpose is to present a study of the various aspects of physical disablement, and of what needs to be included in a full and comprehensive service, both for the prevention or limitation of disability, and for the rehabilitation of those who are permanently disabled. It is with that object in view that extensive summaries have been given of the technical lectures, demonstrations and discussions which took place during the Course.

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CHAPTER I

INTRODUCTION

The United Nations and Specialized Agencies have, from their inception, taken a keen interest in all measures calculated to relieve distress and to improve the social and economic standards of countries all over the world. During recent years, their attention has been increasingly drawn to the possibility of assisting governments to develop services for the rehabilitation of the disabled, and to work out such plans in co-ordination with one another rather than as separate organizations. In October 1950, as a result of a resolution passed by the Economic and Social Council in the preceding July (Resolution 309 (XI)), a Technical Working Party on Rehabilitation was established, composed of representatives of the United Nations Division of Social Welfare, the Technical Assistance Administration, the various Specialized Agencies concerned with the problem of the physically handicapped, and the United Nations International Children's Emergency Fund. This Working Party not only proceeded to draw up a co-ordinated international programme for the rehabilitation of the physically handicapped, in accordance with the Economic and Social Council resolution, but also recommended the organization of special group-training courses as part of the programme of technical assistance furnished by the United Nations under General Assembly Resolution 418 (V).

The method of group-training courses, as a means of studying the many and complex problems associated with the rehabilitation and employment of disabled persons, is a new one. It represents an attempt to gather together, in a single, combined seminar, a number of technical experts, each of whom has been previously concerned with a partial and necessarily incomplete aspect of what needs to be a single, well-integrated process ; to enable each member of such a national group to study and appreciate the particular contribution of the other experts who compose a complete rehabilitation team, rather than to concentrate his study on his own particular speciality ; and, by means of a series of lectures, demonstrations and group-discussions covering the whole field of modern rehabilitation, to stimulate group-thinking and closely knit team-work in the rehabilitation services of the countries represented by the participants in the course.

The first group-training course on rehabilitation, organized under the ægis of the United Nations, the World Health Organization and the United Nations International Children's Emergency Fund, was held in the United Kingdom in March and April 1951, and was confined to the rehabilitation of the physically handicapped child. Seven national teams took part in the Course, each team representing seven technical specialities concerned with the medical, educational, social and vocational aspects of the problem, and it was generally regarded as having been successful. It was therefore decided to organize a somewhat similar course during 1952, on the subject of the "Rehabilitation of the Adult Disabled", and to hold it, if possible, in some other European country. The United Nations Technical Assistance Administration, the World Health Organization and the International Labour Organisation agreed to act as the sponsoring agencies, and the Governments of Sweden, Finland and Denmark extended a kind invitation to hold the Course in their countries. This invitation was warmly accepted, and it was decided that the Course should be of nine weeks' duration, with residence in Sweden from 8 to 30 September, in Finland from 1 to 16 October, and in Denmark from 17 October to 7 November. Although time would not permit of a similar visit to Norway, the Norwegian Ministries of Social Affairs and Labour and the Norwegian Health Services took a very sympathetic interest in the Course from the outset, and were most helpful in drawing up the programme. The Geneva Office of the Technical Assistance Administration was given responsibility for the administration and organization of the Course ; Dr. Harold Balme, Consultant Adviser on Rehabilitation to the United Nations and the World Health Organization, was appointed Director, responsible for the planning and conducting of the Course, with Dr. C. J. S. O'Malley, Medical Director of Garston Manor Rehabilitation Centre, England, as his Assistant ; and Dr. N. Sailer, of the Geneva Office Technical Assistance Administration, was appointed Project Officer.

To avoid unnecessary duplication, Sweden was asked to take responsibility for the portion of the programme which dealt with basic scientific research and the components of a complete rehabilitation service ; Finland, with vocational training and the employment of the disabled ; and Denmark, with the application of rehabilitation principles and technique to the treatment and after-care of specific types of disability. Each of the host countries appointed a committee to plan their part of the combined programme, and provided facilities in a very generous manner for the organization of the Course.

It was decided to issue invitations to the Governments of eight European countries—Austria, Den-

mark, Finland, Greece, Italy, Netherlands, Norway and Sweden—to nominate suitable participants for the course. The following is an extract from the official letter sent by the Director-General of the United Nations Technical Assistance Administration to the appropriate Ministry in each of the eight selected countries :

"I have the honour to inform you that the United Nations, in co-operation with the World Health Organization and the International Labour Office, is organizing a group-training course on the rehabilitation of handicapped adults...

"It is the purpose of the course to present a complete picture of adult rehabilitation to those who attend, including the administrative organization of rehabilitation programmes at the national level ; methods of preventing or reducing disability ; the treatment and after-care of all kinds of disabling disorders ; the vocational training and placement in suitable employment of those who are permanently disabled ; and the provision of prostheses and other forms of mechanical aid. This object will be pursued throughout the course by means of a series of lectures by technical experts, followed by opportunity for questions and discussion ; by demonstration of modern films ; by visits to a large number of institutions (hospitals, special schools, rehabilitation centres, vocational workshops, etc.) in which disabled people are cared for ; and by group discussions among the members of the course.

"Modern rehabilitation is the result of well-co-ordinated team-work, in which various technical experts all take part, and for that reason each participating country is invited to select a team to attend the course. Such a team should, so far as possible, be chosen from the same institution or group of institutions, and should include :

(1) A Public Health Administrator, or representative of the Government Department of Health ;
(2) An orthopædic surgeon or traumatologist ;
(3) A physiotherapist or remedial gymnast ;
(4) A Ministry of Labour Administrator, technical officer or adviser in the employment field ;
(5) A social worker interested in the problems of the disabled ;
(6) A vocational counsellor ;
(7) A prosthetic technician.

(Signed) H. L. KEENLEYSIDE,
Director-General,
Technical Assistance Administration."

Particulars of the nominees selected by their respective Governments included not only details of their technical qualifications but also of their facility in the use of English, it having been decided that English would be the working language of the course. In the end 47 participants were chosen, belonging to the following categories :

6 Public Health Administrators, or representatives of Departments of Health ;
7 Labour Administrators, especially concerned with the training and employment of disabled persons ;
6 Orthopædic surgeons and surgeons responsible for the treatment and after-care of injuries ;
1 Physician specializing in physical medicine ;
2 Physicians specializing in vocational assessment of the handicapped ;
9 Physiotherapists and remedial gymnasts ;
8 Social Workers concerned with the social problems of the disabled ;
1 Provincial After-care Nurse ;
7 Vocational Counsellors and handicraft advisers.

The distribution amongst countries was as follows :

Austria.	7	Italy.	4
Denmark. . . .	7	Netherlands . .	5
Finland	6	Norway	7
Greece.	5	Sweden	6

The difference in the number of members from the respective countries was due to the fact that not all the countries nominated full teams (many suitable candidates being unable to leave their work for so long a period), and the vacancies were filled by nominees from other countries.

Each participant was provided with preliminary literature, describing the health and social services of the country to be visited and the provision for disabled members of the population. The study of this literature formed a valuable background for the study of rehabilitation services which followed.

CHAPTER II

SYLLABUS OF THE COURSE

The syllabus was drawn up with the purpose of giving as complete a picture as possible of the treatment, rehabilitation, training, employment and general welfare of all types of physical disability. The main subjects which it attempted to cover were the following :

I. The Problem of Physical Disability

- The physical effects of crippling disease or severe injury ; the main causes of the more frequent types of disability ; and their relation to age-groups, vocation, etc.
- The psychological effect of disablement.
- The effect of disability on physiological function and work-capacity.
- The social and vocational consequences arising from serious physical handicap.

II. Scientific Assessment of Work-capacity and Endurance

- The anatomical and physiological basis of functional activity.
- New methods of assessing individual capacity for maximum muscular strain and endurance.
- Job-analysis, and the methods of assessing the optimum range of muscular movement for various types of work.
- Psychological tests of adaptibility, dexterity, endurance, and powers of concentration.
- The relation of physical and psychological assessment of an individual patient's capacity to selective placement in suitable and satisfying employment.

III. The Prevention of Physical Disability

- Research methods of occupational health, and the prevention of disability arising from occupational disease or unhealthy industrial conditions.
- Safety devices for the prevention of accidents, including the prohibition of young persons from dangerous employment.
- The work of the industrial medical officer and nurse.
- Early medical rehabilitation in hospital in all cases of potential disablement arising from crippling disease or injury.

IV. The Programme and Organization of a Complete Rehabilitation Service

- The functions, organization and staffing of Hospital Rehabilitation Departments and post-hospital Rehabilitation Centres.
- The essential need of close team-work between doctors, physiotherapists, occupational therapists, social workers, vocational counsellors and teachers, and those responsible for the employment of the disabled.
- The special contribution of protective legislation, social security schemes, insurance measures and pensions.
- The need for the integration of rehabilitation services within the normal health, social and vocational services of the State and Municipalities, and for close co-operation with voluntary agencies and leagues of the disabled.

V. The Training and Function of the Rehabilitation Team

- The form of training, methods of employment, and specific function of :
  - (*a*) Specialists in Physical Medicine and Rehabilitation Medical Officers.
  - (*b*) Physiotherapists and remedial gymnasts.
  - (*c*) Occupational therapists and handicraft instructors.
  - (*d*) Social workers dealing with the problems of the physically handicapped, both in hospitals, special centres, and in the patient's own home.
  - (*e*) Vocational assessors, counsellors and instructors.
  - (*f*) Employment officers specially concerned with finding suitable work for the disabled (e. g., Disablement Resettlement Officers).
  - (*g*) Prosthetic technicians.

VI. Rehabilitation Technique for Special Disabilities

- Accident cases and fractures.
- Orthopædic disabilities, including deformities, arthritis, etc.

Neurological disorders, including poliomyelitis, hemiplegia, spinal paraplegia, cerebral palsy and epilepsy.

Tuberculosis — Pulmonary, and tuberculous disease of bones and joints.

Post-concussion syndrome and brain injuries.

Neurosis.

Blindness and partial sightedness.

Deafness and hardness of hearing.

Speech defects.

Diseases of old age.

VII. The Training and Employment of the Disabled

The relation of individual assessment of work-capacity and job-analysis to the task of vocational assessment and guidance (see also under II).

The work of the vocational counsellor and the training instructor.

The organization and staffing of vocational training centres.

The relative advantages of a quota system and of voluntary engagement of disabled persons.

The function and organization of sheltered workshops and domiciliary employment.

The essential importance of regular follow-up schemes and revision after selective placement.

VIII. Prostheses and Technical Aids for the Disabled

The importance of correct methods and site of amputation in relation to the patient's future vocation.

The preparation of amputation-stumps and the value of the early use of temporary prostheses.

The organization and control of Limb-fitting Centres under the skilled supervision of specially trained surgeons.

Education in the correct use of prosthes

The provision, financing and methods adjustment, repair and replacement artificial limbs and other mechanical appliances.

The use of technical appliances aids, transport and aids to daily living for the severely disabled.

CHAPTER III

THE INTEGRATION OF REHABILITATION SERVICES WITHIN NATIONAL HEALTH, SOCIAL AND VOCATIONAL SYSTEMS

It is generally recognized that rehabilitation services for the disabled, if carried out on a national scale, should not be organized as a separate agency, but should form part of the established health, social and vocational services of the country. For that reason it was essential for members participating in this Course of study to be acquainted with these services in the countries visited. Valuable information had already been provided in the literature prepared by the four organizing committees, and distributed to those attending the Course beforehand. In addition, an introductory lecture was given in each country by a prominent official attached to one of the chief Ministries concerned.

The following is a brief report of these lectures.

Medical Services in Sweden

Lecturer: Dr. M. TOTTIE, Royal Medical Board.

This lecture, which was illustrated by charts and an illuminated map of Sweden, gave a vivid picture of the distribution of county and district medical officers and nurses in relation to the density of population, the twenty-four counties each having its own county medical officer, whilst rural health is under the care of 550 doctors and 1,280 public health nurses. (Sweden's population of 7 millions is served by about 5,000 doctors and 13,000 trained nurses.)

Dr. Tottie described in detail the extensive preventive medical services carried out through the country, including maternal and child welfare; services for school children; generous facilities for cases of tuberculosis, including tuberculosis dispensaries with their own special doctors and nurses and sanatoria for both pulmonary and surgical tuberculosis; and the control of public health and sanitation.

Referring to the facilities provided for patients needing hospital care, Dr. Tottie explained that the hospitals were mostly controlled by the State, by municipalities, or by county councils, including a few which were privately maintained; that they had accommodation for 35,000 in-patients in addition to a large out-patient service; and that they included general hospitals, special hospitals, and institutions for the chronic sick and the aged. The total expenditure on the health services had increased eightfold in the past twenty-four years and represented 10 per cent of the national income.

The cost of hospital care to the individual patient averaged only 1 to 3 crowns a day and was usually covered by insurance or by the employers.

All cases of industrial accidents were covered, and orthopædic care (for which 500 beds are available) includes the provision of prostheses or other necessary appliances.

Although facilities for medical rehabilitation have not yet been organized in many hospitals, vocational training and disability pensions for the physically handicapped are well organized.

In conclusion, Dr. Tottie commented on the shortage of social workers in hospitals and the need for closer co-operation in establishing comprehensive rehabilitation services.

Health and Rehabilitation Services in Norway

Lecturer: Dr. KARL EVANG, Director of the Royal Health Board.

Dr. EVANG opened this lecture by stating that Norway is divided into 750 municipalities, each of which is autonomous and is responsible for the health and welfare of the community, the State paying a proportion of this cost varying from 40 to 80 per cent of the total.

Rehabilitation can be considered only in relation to the health, social and economic services of the country, and the development of adequate rehabilitation services has been particularly difficult in Norway owing to: (*a*) the scattered disposition of the population and the fact that disabled people are apt to be lost sight of in small rural communities; (*b*) the lack of the pressure resulting in other countries from the presence of a large number of war-disabled; and (*c*) the relative lack of industrial or traffic accidents, as compared with countries possessing large industrial centres.

Modern rehabilitation methods had commenced in Norway in certain mental hospitals, where, in addition to routine psychotherapeutic measures, a system of interesting work-therapy was introduced for the patients. Before discharge, mental patients work in the homes of members of the staff, where their social adaptability can be tested and they learn to mix with normal members of the home.

Describing the accident insurance and pension schemes, Dr. Evang referred to the danger of patients tending to exaggerate their symptoms and disabilities. To counteract this tendency, disability pensions are

granted only when the degree of disablement is assessed at 80% or over. Accident insurance, on the other hand, is on a purely insurance basis, the allowance being decided on the degree of disability, from 8% upwards.

Dr. Evang estimated the number of physically disabled people in Norway at about 18,000 and stated that they were helped both by the State and also by the very strong voluntary agencies which exist all over the country. As examples of the various methods now employed for the encouragement of rehabilitation principles and practice, he mentioned the following :

(1) That teaching on rehabilitation is now being introduced into the regular curriculum of medical students, public health nurses, physiotherapists and social workers ;
(2) That there are about 850 orthopædic beds available for orthopædic and traumatic cases, and that early methods of medical rehabilitation are being introduced into hospital practice ;
(3) That four State Rehabilitation Centres, with between 700 and 800 beds, are being (or have been) established, with provision for all types of disability, including active tuberculosis ;
(4) That schools for the disabled, vocational training institutions, sheltered workshops and homes for the incurable are also being developed.

In conclusion, Dr. Evang stated that the chief needs in Norway, from the point of view of adequate rehabilitation services, were :

(1) A large number of trained personnel ;
(2) A re-orientation of opinion on the part of the medical profession and the general public ;
(3) Better preventive services, with a view to reducing the amount and degree of cases of disability ;
(4) More rehabilitation centres.

In the discussion which followed, Dr. Evang answered several questions relating to the organization and administration of the health services, and the financial provisions for the disabled and their dependants.

Social and Rehabilitation Services in Finland

Lecturers : Mr. EERO A. WUORI, Chief of the General Department of the Ministry of Social Affairs ; Mr. P. VIRTANEN, Chief of the Rehabilitation Bureau of the same Ministry ; and Professor F. LANGENSKIÖLD, Head of the Orthopædic Hospital of the Invalid Foundation.

Mr. WUORI explained that the main responsibilities of the Ministry of Social Affairs in Finland were concerned with the general health and welfare of the population (Social Services, Housing, Child Welfare, Rehabilitation, Insurance), but that other Ministries were also interested in the welfare of the disabled, such as the Ministry of the Interior (under which is the State Medical Board, which is responsible for the control of hospitals), the Ministry of Education, and the Ministry of Trade and Industry. At the same time, he reminded the members of the Course that in Finland there are three strong organizations, all concerned with the rehabilitation and training, etc., of the disabled, and all receiving substantial financial aid from the State—namely, the Invalid Foundation, the League of Civilian and Conscript Invalids, and the Association of Disabled Ex-Servicemen.

In describing the various duties of the central and local authorities, Mr. Wuori mentioned that each commune (of which there are 35 municipalities, 30 market towns and 484 rural communes) is compelled by law to establish a Board of Social Affairs, and that the local authorities also look after the mental hospitals, tuberculosis sanatoria and workhouses. It is an interesting fact that every commune also maintains a Board of Health, with a medical officer for every 4,000 inhabitants, a public health nurse for every 5,000 and a midwife ; and to overcome the difficulty of accommodating these workers, and providing suitable rooms for medical examinations, maternal and child welfare clinics, etc. "Health Houses" have now been erected in over 400 rural communes.

Speaking of the cost of social services in Finland, Mr. Wuori mentioned that, in 1950, no less a sum than 48,820 million Finnish marks was spent by the State for this purpose, representing the high figure of 12 per cent of the national *income* (not the national budget), and that of this sum 38 per cent was spent on allowances and welfare projects for families and children, 19 per cent on sickness allowances and treatment, 15 per cent on the maintenance and care of the aged and disabled, 11 per cent on the care of the war-injured, 4 per cent on accident insurance cases, 8 per cent on miscellaneous objects and 1 per cent on administration. When it is remembered that the wars of 1939-1944 cost Finland over 80,000 young lives who were killed, 50,000 seriously disabled, the loss of 10 per cent of its territory, and the need to provide accommodation and maintenance for 400,000 refugees and reparation payments totalling no less than $300 million—all now paid—the sacrifice made by the population to meet the expense of its social services can be appreciated.

Mr. VIRTANEN defined the disabled as those whose ability to compete in the open labour market has been reduced by reason of age, physical or mental deficiency or failure to adjust themselves to their environment, etc., so as to need the support of the community.

He stated that 7.5 per cent of the population were included among the elderly and 16 per cent serious cases of mental disease, while it was estimated that of the physically handicapped there were at least 3,000 blind, 4,000 seriously deaf, 40,000 crippled. 70,000 victims of tuberculosis, 110,000 arthritics, and probably several hundred thousands whose physical disability was milder in character.

A variety of statutory measures had been passed by the Government during recent years which provided assistance, in one form or another, for those who are disabled, of which the most important are :

(*a*) The *Military Injuries Act*, providing financial aid, hospital treatment and artificial limbs or other appliances, for the war-disabled ;

(*b*) The *Accident Insurance Act*, giving medical care and compensation to the victims of industrial injuries or occupational disease ;

(*c*) The *National Pensions Act*, conferring benefits in the form of hospital treatment, professional training and pensions for those unable to work on account of severe disability or old age ;

(*d*) The *Vocational Rehabilitation Act* of 1942 providing vocational training and employment opportunity for the war-disabled ;

(*e*) The *Care of the Disabled Persons Act* of 1946, affording a wide range of facilities for all classes of disabled persons.

The operation of the **Care of the Disabled Persons Act** was described in detail in a succeeding lecture, which was given by Professor F. LANGENSKIÖLD, Head of the Orthopædic Hospital of the Invalid Foundation. After referring to the care of cripples which had been undertaken by charitable organizations for the past sixty years, he explained that the State, under the Act of 1946, assumed responsibility for the medical care, elementary education, occupational training, job placement and economic help of all types of physically handicapped children and adults.

Such assistance is obtained by a personal application of the disabled individual, a medical certificate that he or she would benefit by proper rehabilitation and training, and the passing of a means test on which the amount of financial aid to be provided by the State is determined. The scheme of rehabilitation, which is under the control of the Ministry of Social Affairs, and which includes financial aid to private as well as to public organizations, is very comprehensive in its scope and applies to all who have reasonable prospect of becoming independent and self-supporting (that is to say, all except those whose illnesses are progressive and incurable), its only weaknesses being :

(*a*) A serious shortage of orthopædic beds, there being only one orthopædic hospital in the country, —namely, that of the Invalid Foundation, where the waiting list for some cases extends to two years ;

(*b*) Inability to provide continuous physical treatment (e.g. physiotherapy, remedial exercises in gymnasium or heated swimming-pool, etc.) for as many long-term patients as would benefit from it ;

(*c*) Deficiency of occupational therapy, owing to the lack of any school for trained occupational therapists ;

(*d*) An inadequate service for providing well-fitting prostheses, under medical supervision, and educating amputees in the use of their artificial limbs.

Professor Langenskiöld concluded his lecture by emphasizing the importance of a wise psychological approach to the care of all disabled persons ; the need for close co-operation between all concerned with the work of rehabilitation ; the great value of emphasis on early activity and education in movements required for daily living ; the need for wisely supervised preparatory guidance and supervision before embarking on a course of vocational training ; and the problem of suitable housing accommodation in the selection of work for those who have completed their course of training.

The Invalid Foundation, which was established in 1940 on the initiative of the Ministry of Social Affairs, not only maintains the Orthopædic Hospital, a Vocational Guidance Department and a large Vocational School in Helsinki, but also has important activities for the care of invalids in the country, including a post-hospital Rehabilitation Home at HYVINKAA, a Prosthetic Shop at OULU, and an Agricultural Vocational College at MANTSALA.

Rehabilitation Services in Denmark

Lecturers : Mr. H. H. KOCH, Permanent Secretary of State of the Ministry of Labour and Social Affairs, and Dr. K. H. BACKER, Adviser to the National Health Service.

Mr. KOCH, having expressed his anxiety not to repeat what had already been observed in Sweden and Finland, gave a brief historical review of the development of social services in his own country.

He stated that these had started with the activities of the various philanthropic and religious organizations (now mostly State-subsidized but including many powerful institutions continuing to work under private control), and had led to an increasing interest on the part of the Government and the municipal authorities. He referred to the important actions which had followed the passage of the Invalidity Insurance Act, and the opportunity which it afforded to disabled people, not only to secure financial aid, but also to be assured of opportunities for hospital treatment, rehabilitation, training, assistance in securing employment, and the provision of any necessary prostheses, technical appliances, or industrial tools.[1]

Mr. Koch considered that the chief problem in Denmark, in connection with the adult disabled, was to secure adequate opportunity for their employment in the open labour market. In spite of the provision made for the education and care of physically handicapped children, and the opportunities for efficient treatment and rehabilitation for those who became disabled in adult life, there was still considerable difficulty to ensure their securing suitable employment. This was partly due to the relative lack of opportunity

[1] Under the terms of this Act, registration is compulsory in all cases where medical practitioners or school authorities become aware of young persons up to 30 years of age who are suffering, or are likely to be suffering in the near future, from disabilities reducing their earning capacity to one-third of what is normal among comparable healthy young people.

for vocational training for those who could not learn a new trade under the apprenticeship system prevalent in Denmark, partly due to the shortage of Employment Offices possessing officers trained in the selective placement of disabled persons, and partly due to lack of closer co-operation between the various agencies (State and municipal authorities, Leagues of the Disabled, etc.) dealing with the problem. Neither the quota system for employers nor the reserving of designated occupations was considered suitable in Denmark, but co-ordinating bodies were now being set up in various localities, on which employers and trade unions would be represented as well as labour authorities and representatives of the disabled, and it was hoped that these committees would facilitate the securing of employment for all classes of handicapped persons.

After referring to the attention which was paid in Denmark to preventive measures, and to efforts to enable physically handicapped children of pre-school age to be cared for and educated amongst normal children wherever possible, Mr. Koch spoke of the valuable work which was being done by the disabled themselves, both in stimulating and educating public opinion and in improving the prospects of social welfare and useful employment of those so handicapped.

Mr. Koch concluded by stating that a Government Committee was now being set up, charged with the task of recommending measures for securing greater co-ordination among all agencies concerned with the treatment, welfare, training and employment of disabled people, and advising the Government on the measures which should be adopted to close existing gaps and establish a complete rehabilitation service.

Dr. J. FRANDSEN, Director of the Danish National Health Service, was unfortunately prevented from lecturing on **Health Services in relation to the Problem of Rehabilitation**—as he had hoped to do. In his absence, Dr. K. H. BACKER, dealt with the subject, stressing the following points :

1. That no organized rehabilitation service existed in Denmark, but that the existence of well-staffed hospitals all over the country, the generous provisions of the Invalidity Insurance Act, and the smallness of the charge for hospital services for non-insured patients, made it possible for all invalids to secure early diagnosis and efficient treatment.

2. That 75 per cent of the population secured free medical and hospital treatment through the Invalidity Insurance Scheme.

3. That physical medicine plays a big rôle in the medical rehabilitation of hospital patients, though but few hospitals have yet developed special departments of physical medicine, or hospital rehabilitation departments.

4. That close collaboration exists between general practitioners, and the hospitals and consulting staffs, all necessary pathological or radiological investigations being provided at hospitals for the general practitioners in the district.

5. That, so far, there has been very little development in hospitals of occupational therapy, social work, work-therapy or vocational guidance, and that the few D.R.O.s who at present work in Labour Employment Offices in Denmark have no contact with the hospitals.

6. That excellent services exist for special disabilities—e.g. tuberculosis, poliomyelitis, cerebral palsy, blindness, deafness, etc.—but that there are obvious gaps in what should be a *continuous process of rehabilitation* for all classes of medical or surgical disability, and between the hospital and the industrial services for the disabled. It was the sincere hope of the Danish members of the Group-training Course that these gaps would be clearly recognized and bridged over.

CHAPTER IV

THE EFFECTS OF PHYSICAL DISABILITY

Throughout the whole Course, the effects of physical disability were both demonstrated and described. These effects are not only apparent in the realm of physiological function (limitation of mobility, agility, special sensation, respiration, etc.), but also in psychological reaction, in social and domestic comfort, in educational and training facility, and in opportunity for independent and satisfying employment.

A series of demonstrations—clinical, radiological and by means of films—provided vivid evidence of the physical effects of severe disablement, and the problems involved in the full rehabilitation of those so handicapped. At the Karolinska Hospital, Stockholm, cases were shown suffering respectively from prolapsed vertebral disc, cerebral injury, emotional instability, neurosis after trauma, an accident complicated by syncopal attacks, and various thoracic disabilities, and their rehabilitation and employment problems discussed by a team of workers. The post-concussion syndrome and the serious results of brain injuries were ably demonstrated at the Serafimer Hospital, Stockholm, and the special centres in Finland. Orthopædic and vascular disabilities and the effects of infantile paralysis were the objects of special study at various hospitals and clinics in Denmark, whilst other cases whose disabilities were demonstrated, and whose rehabilitation formed the subject of full and careful discussion, were amputees of all types, sufferers from cerebral palsy, tuberculous patients (both pulmonary and surgical), arthritics, epileptics, paraplegics and the blind and deaf. Reference to the special problems of these different types of disability will be found in later chapters of this report.

In addition to these demonstrations of the physical effects of severe disability, the psychological and economic problems to which they give rise formed the subject of special lectures, of which the following is a summarized report.

The Psychological Effects of Physical Disability

Lecturer: Dr. Erland MINDUS, Consultant Neuro-Psychiatrist to the Royal Labour Board, Stockholm.

After emphasizing the fact that no serious form of physical disability is free from psychological effects, Dr. MINDUS drew particular attention to the following factors as influencing the psychological reaction of a patient to a crippling disease or severe physical handicap :

1. The age of the patient at the time of onset, with the different reactions of the handicapped child, and the adult whose power of adaptability to society has been lessened.

2. The site of the lesion, and whether or not associated with the central nervous system.

3. The medical and psychological state of the patient before the onset of disability, with particular reference to the presence of other disorders, general physical condition, type of personality, etc.

4. The social environment of the patient, both before and after the onset of physical disablement.

5. The amount of time elapsing between initial hospital care and the commencement of expert rehabilitation.

Dr. Mindus also stressed the tendency to withdrawal from society and isolation ; the restriction of the patient's interests and development of egocentric concentration ; the tendency to exaggeration of symptoms and to over-compensation ; and the vital importance of expanding the patient's world, bringing him into group activities, and securing his co-operation in his own care and training.

The discussion which followed emphasized the deterrent effect of over-protection and the prospect of large financial compensation or pensions, the importance of a more sympathetic understanding of the problems of the disabled on the part of the general public, and the great value of adequate incentives as a means of overcoming psychosomatic tendency.

The Economic Problem of Physical Disability

Lecturer: Mr. B. OLSSON, M. Pol. Sc., Divisional Chief in the Ministry of Social Affairs, Labour and Housing, Stockholm.

Mr. OLSSON gave a brief historical view of the development of rehabilitation in various countries, and the new approach which was now being made to the subject of physical disability, particularly in relation to national programmes of full employment. In a lecture, which was illustrated by a series of valuable statistics, he emphasized the following points :

1. That the economic aspect of physical disability was primarily related to the problem of employability.

2. That the disabled man had the same right to full employment as the able-bodied, and that in a society which aimed at full employment for its workers, adequate steps must be taken to secure such advantages for those who are physically handicapped.

3. That a new approach to the problem had arisen from the new attitude of governments to the need of increased manpower, and the possibility of training and employing the disabled as well as the able-bodied.

4. That several countries had made marked progress in providing for the employment of the disabled, and that the leading international organizations, both governmental and voluntary, were taking a keen interest in this project.

5. That it was impossible to offer an exact definition of physical disability, as it was necessarily related to the patient's life and occupation.

6. That employment for the disabled must include a wide range of possible vocations and not be limited in scope.

7. That the statistics of disability, as assessed in the United States, suggested that approximately 12 per cent of the population of employable age suffered from some form of serious handicap, of whom 1,200,000 needed rehabilitation before employment and 400,000 required extensive rehabilitation and sheltered employment.

8. That over 90 per cent of the disabled of employable age could become independent members of the community as a result of modern methods of rehabilitation and training.

9. That the actual cost of rehabilitation of a disabled person was, on an average, repaid tenfold by his contribution to the government in the form of taxes, in addition to the humanitarian and social benefits obtained.

10. That the disabled man who had undergone modern rehabilitation and training proved, on average, more stable and less liable to absenteeism or accident than the able-bodied.

In the discussion which followed, questions were raised regarding the opposition which often existed amongst employers, trades union officials and workmen to the employment of disabled persons, particularly in periods of considerable unemployment. It was pointed out that this attitude could be changed only by the education of public opinion on the rights of the handicapped and the valuable and stable work which can be undertaken by disabled men who have undergone modern rehabilitation and training. Furthermore, that it is unfair and inhuman to add to the burden of physical handicap a refusal of opportunity to become fitted for employment ; that it is bad policy for any government to maintain in helpless idleness a large reserve of potential workers ; and that it is less expensive for a State to support a man who has regained his independence than to maintain one who is seriously incapacitated and often requires the services of a personal attendant or admission to a State institution.

In response to requests from many participants, the "Statistics concerning Disability and the Economic Value of Rehabilitation", contained in Mr. Olsson's lecture, are printed as Appendix I to this report.

CHAPTER V

THE PREVENTION OF PHYSICAL DISABILITY

Although the term "rehabilitation", which has now secured world-wide recognition, should strictly be regarded as a restoration of functional capacity to those previously disabled, the prevention of such disability is of equal or even greater importance. Just as curative medicine led in turn to a study of the conditions which cause disease and the adoption of invaluable national measures of public hygiene and preventive medicine, so does a study of modern rehabilitation lead back to a careful investigation of the methods by which crippling disease or injury could be avoided, or its disabling effects reduced.

These methods are numerous and varied. They include the important campaigns carried out in many countries, with the assistance of the World Health Organization, the United Nations International Children's Emergency Fund and the Red Cross, to immunize children against such crippling diseases as tuberculosis ; the widespread efforts to counter infective disorders, such as malaria and trachoma and venereal disease ; the invaluable work of the International Labour Organization in promoting conventions for the protection of workers in industry, the installation of safety devices and the prohibition of adolescents from dangerous trades ; the improved care of the young resulting from better knowledge of maternal and child welfare and the establishment of ante-natal and post-natal clinics and the like ; and the growing use of rehabilitation technique in the hospital treatment of cases of potential disablement.

The visits which were paid by members of the Group-training Course to the State Institute of Public Health, Stockholm, and the Institute of Occupational Health, Helsinki, afforded an invaluable opportunity for a study of modern methods of investigating and controlling occupational hazards and disease, which were personally demonstrated by Professor LARS FRIBERG and Dr. M. KARVONEN respectively. These demonstrations included an explanation of the laboratory technique employed in the detection of toxic materials in the blood and urine of industrial workers (mercury, lead, carbon monoxide, benzine, chlorinated hydrocarbons, etc.) ; the analysis and estimation of dust and free silica in inspired air ; the effect of exposure to excessive noise, vibration or radio-activity ; and the methods employed in the investigation of factory conditions and the periodic examination of the employees.

Two lectures on "Occupational Diseases in relation to Physical Disability" were delivered by Professor SVEN FORSSMAN, of Stockholm, and Dr. L. NORO, Director of the Institute of Occupational Health, Helsinki, of which the following is a summary :

Professor FORSSMAN stated that there are only a few occupational diseases which cause a permanent disability, the most important of which is silicosis, which is caused by inhalation of dust containing free silica in mines, foundries and potteries. This disease does not respond well to any form of treatment once the disease has reached a certain stage which is progressive, even though the worker has been removed from the environment which gave him the disease. He emphasized that occupational diseases can be divided into two main groups according to their cause :

(1) Chemical causes, such as toxic gases and dust ;

(2) Physical causes, such as noise producing deafness, and radiation diseases.

In Sweden, the most important occupational diseases in the first group are silicosis, intoxications from carbon monoxide, lead, mercury, etc., and solvents such as benzine and chlorinated hydrocarbons ; occupational dermatitis from skin-irritating substances is also prevalent.

As regards the physical causes, examples were seen of the prevention of deafness at the ASEA Factory visited on 12 September.

The following principles are usually applied in practice to prevent occupational hazards.

Technical measures	*Medical measures*
1. Eliminate the source of the occupational hazard : (*a*) Exchange toxic substances against non-toxic or less toxic substances ; (*b*) Change the process of work to a less hazardous one ; (*c*) Good housekeeping.	1. Periodical examination of all exposed workers to detect an occupational disease at an early stage before it causes disability.
2. Prevent spreading the toxic substances in the working-room through— (*a*) closed systems, (*b*) local exhaust ventilation, (*c*) keeping the dust wet, (*d*) good housekeeping.	2. Pre-employment examinations to avoid exposure to occupational hazards of those who are more susceptible to get the disease in question.
3. Personal protective measures, as masks, in cases when the above-mentioned measures are not sufficient.	3. Adequate nutrition.
	4. Circulation of personnel for one period at a work with occupational hazard and for another period at non-hazardous work. This should only be organized for a short time e.g., when there is some delay in putting other preventive measures in action.

Practical experience has shown that application of these principles of prevention will often reduce the incidence of occupational diseases or totally eliminate the occupational hazard.

During the discussion on his lecture, Professor Forssman gave a full account of how the public was educated with regard to occupational diseases and stressed the importance of periodic medical examinations of the workers.

In response to a suggestion that there is also a fourth class of occupational disease—namely, that of neurosis due to unsuitable work from a psychological point of view—Professor Forssman agreed to this extra class, but said that the preventive measure to combat this type was the proper selection of workers for a particular job ; putting the right man in the right place prevented a psychological breakdown. The answer was the accurate assessment of the worker's personality and suitable placement.

Dr. L. NORO commenced his lecture by quoting the definition of "occupational health" as given by the joint expert committee of the WHO and ILO, which is as follows :

> "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations ; the prevention amongst workers of departures from health caused by their working conditions ; the protection of workers in their employment from risks resulting from factors adverse to health ; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment ; and, to summarize, the adaptation of work to man and of each man to his job."

Dr. Noro then explained that the care of occupational health, whilst mainly preventive in character, also included the placing of infirm or disabled workers in positions which would not be prejudicial to their health or safety, and thus could claim to be making a contribution to the wide problem of rehabilitation.

> Work and work-environment can both be responsible for many different hazards. Thus accidents may be caused by lack of proper safeguards in the workshop : by lack of physical fitness or a wrong attitude on the part of the employee : by physical defects, mental defects, or defects of character, etc. It is for this reason that careful physical and psychological investigation must always precede job placement.
>
> The dangers of work and work-environment might be due to
>
> (*a*) Chemical conditions, such as the various forms of toxic products, fumes, dust, etc. ;
>
> (*b*) Biological conditions, such as those causing anthrax, tuberculosis, typhoid fever, etc. ;
>
> (*c*) Physical conditions, such as excessive humidity, abnormalities of atmospheric pressure, excessive heat, noise or vibration, defective illumination or ventilation, radio-activity, etc.
>
> Work-environment can be controlled, if scientifically surveyed and modified, thus enabling disabled persons to work without risk in conditions which would otherwise cause ill-health or breakdown. Fortunately, the human body has wonderful powers of adaptability, even to noxious products, if these are kept below a recognized maximum standard of concentration.

A lecture on **The Prevention of Accidents** was given by Mr. Edvin PELOW, Director-General and Chief of the Workers Protection Board, Stockholm, drawing attention to the following points :

> 1. There are on an average 300,000 industrial accidents in Sweden each year, of which 550 are fatal and 3,200 result in permanent disability. (This means that one worker out of seven is liable to suffer from accident in the course of a year.)
>
> 2. The number of working-days lost from industrial injuries is estimated at 15 millions per year, and the compensation paid annually about 125 million kronor. To this latter figure must be added the loss suffered by the national economy owing to loss of production caused by such accidents.
>
> 3. The protection of workers includes not only the prevention of accidents or occupational disease, but also welfare provisions regulating the employment of women and young persons, hours and periods of work, holidays, etc.
>
> 4. The scope of the Swedish Workers' Protection Act is much wider than in most other countries, including private enterprises as well as factories, and placing obligations on both employers and employees in matters of protection against occupational hazards, medical examinations, rest periods, limitation of hours, and provision for expert supervision and for co-operation between employers and the employed.

This lecture was illustrated by a film showing the importance of adequate protection against accidents.

The protection of children from serious disability, by early diagnosis and expert medical and surgical treatment, formed the main subjects of lectures and demonstrations by Professor YLPPO and Dr. MATTI SULAMA at the University Children's Clinic, Helsinki, and by Professor LANGENSKIOLD, at the Invalid Foundation Orthopædic Hospital, whilst similar lectures and demonstrations on the prevention of specific forms of disability were given at other hospitals and special centres, details of which are recorded in subsequent sections of the report.

A further demonstration of methods that can be employed for the protection of industrial workers was given at the ASEA Factory AB Liljeholmens Kabelfabrik, where Dr. G. HULTGREN gave a lecture illustrated by slides on **The Work of the Industrial Physician.**

His main point was that the industrial physician was responsible for advising on the establishment's hygiene. The organization of prevention and first-aid

was also an important part of his duties. An interesting example of the work of the physiotherapist was that she made a study of the various factory procedures and advised the management on how these machines could best be adapted for use by human beings. He showed diagrams of how the incidence of low-back pain was considerably diminished as a result of her advice, guided by the consultant orthopædic surgeon.

A tour was made of the factory in general and the medical organization in particular. There is a complete dental service and mass radiography unit. Each new workman has a complete medical examination including X-ray and dental inspection. As certain parts of the factory are extremely noisy, every workman has an audiometric examination prior to being engaged, and at periodic intervals.

CHAPTER VI

THE PURPOSE AND FULL CONTENT OF A REHABILITATION SERVICE

Although no countries can yet claim to have established a complete and comprehensive service of rehabilitation for the disabled, many governmental agencies and voluntary organizations are now concerned with the problem. The purpose of rehabilitation is generally understood, but there is very little recognition of the fact that a rehabilitation service, to be successful, must be *individual* (adapted to the special needs and problems of each patient) ; it must be *continuous* (permitting no gaps to occur between the activities of the various agencies concerned with the service, and thus eliminating the risk of chronic invalidism and neurosis) ; and it must be *purposeful* (directed towards the restoration of the disabled man or woman to the most useful and satisfying place in the community).

The following is the synopsis of a lecture on this subject which was delivered by Dr. Harold Balme, Director of the Course :

1. Physical handicap, though operating primarily in the physical sphere, is seldom confined within such limits and usually has repercussions both psychologically, socially, and from a vocational and industrial standpoint.

2. The main causes of physical disability may be congenital, the result of disease or the consequence of severe accident or injury.

3. Whatever may be the cause, physical disability will usually lead to a limitation of physical function, whether locomotor, sensory, or affecting special organs ; a psychological disturbance, often characterized by anxiety and neurosis or a sense of frustration ; a disturbance of social relations which may affect both the family and the communal environment in which the patient lives ; and an economic loss, owing to the difficulty in securing employment in face of the opposition of employers or workmen, or the necessity for discovering some new type of vocation.

4. The presence of physical disability in any patient therefore gives rise to a series of challenging questions on the part of all who are concerned with medical and social rehabilitation. These questions include in the first place the possibility of preventing the occurrence of such a disability ; secondly, the means by which its degree of severity can be reduced ; thirdly, the best means of enabling the patient to adapt himself to his handicap and overcome it ; and fourthly, the measures necessary to provide him with assistance in attaining the goal of independence within a normal community.

5. Rehabilitation when applied to the problem of physical disability consists of an attempt to provide a solution to all such questions and therefore must include methods of prevention, of limitation of disablement, of adaptation of disabled persons to their handicap, and of the necessary assistance by means of protective legislation, social security schemes and technical aids for the disabled.

6. The prevention of disability includes all measures calculated to improve maternal and child welfare services, to establish clinics for the early diagnosis and expert treatment of crippling disorders, and the installation of safety devices in industry and measures of protecting young people from dangerous employment.

7. The limitation of disablement is the main purpose of the rehabilitation team working in a hospital rehabilitation department or a post-hospital rehabilitation centre. Such a team must include a medical officer specially interested in methods of medical and psychological reinstatement, trained physio-therapists and remedial gymnasts, occupational therapists, social workers interested in the personal and domestic problems of the disabled, and employment agents who are able to advise on the choice of suitable vocation and the possibility of securing appropriate forms of work.

8. In adapting the disabled person to his handicap, the psychiatrist, the social worker, the vocational training counsellor and training instructor each has a part to play, but the important factor is the influence brought to bear upon the patient himself and the success in securing his confidence and co-operation.

9. If a disabled person is to find his right place in the normal community, he will need the assistance of an educated public opinion, of protective legislation and schemes of social security and insurance, and such mechanical aids as will enable him to become more mobile and independent.

10. The essence of modern rehabilitation consists in the co-ordination of all who are concerned with the various aspects of rehabilitation. Such co-ordination is necessary amongst the government departments dealing with the problems of the physically handicapped ; between the government and voluntary agencies and associations formed by disabled persons themselves ; and between the respective members of a rehabilitation team.

11. Rehabilitation services must never be regarded as something which is extraneous or exceptional, but must be integrated within the normal health, social and industrial systems of the country.

12. A complete rehabilitation service will therefore require :

(*a*) Facilities for the training and employment of the following personnel :
Rehabilitation Medical Officers, or specialists in physical medicine, orthopædic surgeons and traumatologists,
Psychiatrists,

Physiotherapists and remedial gymnasts,
Occupational therapists,
Social workers,
Vocational assessors,
Vocational counsellors,
Handicraft instructors,
Employment officials trained in the placement and follow-up of disabled persons,
Prosthetic technicians.

(*b*) Properly fitted-up and staffed rehabilitation departments in hospitals.

(*c*) Post-hospital centres for patients needing further rehabilitation before being fit to return to work, but no longer requiring expert medical or surgical treatment or nursing ; such centres are best conducted away from the hospital atmosphere.

(*d*) Schools for the education and training of physically handicapped children.

(*e*) Provision of early expert vocational assessment and guidance for all patients needing to change their vocation because of their disability.

(*f*) Vocational training centres for severely handicapped adults.

(*g*) Provision and expert fitting, under medical supervision, of prostheses and other mechanical aids wherever necessary.

(*h*) Employment agencies for the securing of suitable and satisfying work for all types of disabled persons, whether in open employment, sheltered workshops or at home ; and arrangements for following up the result of such selective placement.

(*i*) Organization for the cultivation of close co-operation between all agencies concerned in the problem, for the education of public opinion on the rights and potentialities of the disabled, and for the application of rehabilitation principles in small communities as well as in large industrial centres.

An instructive example of a national rehabilitation service was given in a subsequent lecture by Dr. GUDMUND HARLEM, Clinical Director of the Norwegian State Rehabilitation Centre at Oslo. This Centre, which contains 140 beds, and accepts every type of disability (including open tuberculosis) and all age-groups from any part of Norway, consists of six departments, divided as follows :

1. *A Diagnostic Department*, whose task it is to investigate carefully the patient's disability, personality and environment and draw up an appropriate programme for his rehabilitation.

2. *A Work-training Department*, providing opportunity for the development of a patient's self-confidence, and preparing him for a return to full employment.

3. *A Physical Training Department*, especially concerned with teaching disabled persons to meet the demands of daily living.

4. *A Night Sanatorium*, to ensure good living conditions and careful medical supervision for patients in danger of breakdown after their return to full work,

5. *Travelling diagnostic teams* of specialists, who make periodic tours in the more remote parts of the country, with a view to screening disabled patients in need of further treatment or rehabilitation.

6. *A Follow-up Department* to check the results of work undertaken at the centre and to keep the staff cognisant of difficulties encountered by the disabled on their return to a normal environment.

In the course of his lecture, Dr. HARLEM stressed the following points :

1. The importance of careful and complete investigation and medical diagnosis of every patient admitted to the centre, both for the purpose of obtaining accurate knowledge of the disability and reassuring his mind that his medical and psychological condition is fully understood. The services of an expert body of specialists are used for this purpose, and the average length of stay in the diagnostic department is 14 days, after which many patients are able to leave the centre with careful instructions as to the work they can safely undertake.

2. The provision of expert medical treatment for the minority (averaging 15 to 20 per cent) who require it.

3. The reassurance of both patients and staff that the work undertaken under medical prescription will be in no way prejudicial to health. Even in the case of active tuberculous disease, adequate precautions can ensure the protection both of the patient and of those with whom he comes in daily contact.

4. The great value of team-work in the operation of such a centre, the doctor co-operating on equal terms with his non-medical colleagues, while they fully understand and appreciate the importance of medical knowledge and guidance.

5. The emphasis which must be placed on stimulating the patient's willingness to work to the limit of his capacity, and to accept responsibility for co-operating in the planning of his future.

6. The close relation which must exist between the work of the vocational counsellor, the doctor, and those responsible for placement in employment, so that vocational training can include as wide a range of handicrafts or professions as possible, but always be related to employment-opportunity and the demands of industry.

7. The need to continue work-training until the trainee can undertake a full day's work at normal speed.

8. The use of physiotherapy and remedial gymnastics as a means of preparation for the activities of daily living.

9. The development of self-discipline among the trainees, without formal rules, with no undue sympathy on the part of the staff, and with no encouragement of segregation.

10. The great value of the night sanatorium for those commencing outside work, both as a means of giving anxious patients a sense of security, affording an opportunity for re-checking diagnosis and observing a patient's reaction to the strain of normal

work, and providing healthy conditions and congenial companionship during the first months after leaving the ordinary life of the centre.

11. The encouraging results of the first experiment in taking a travelling team of experts (an orthopædic surgeon, neurologist, prosthetic technician, social worker, psychiatrist, vocational counsellor and rehabilitation physician) to a distant rural district in which there were a considerable number of disabled resulting from an epidemic of poliomyelitis. This visit enabled the team to select those patients who needed admission to the Centre, and was far more economical in time and expense than arranging for all the patients to be sent to Oslo.

Dr. Harlem stated that 2,500 patients had passed through the Centre, of whom 85 per cent had been fitted for work ; that 45 per cent of the patients were cases of pulmonary tuberculosis (four-fifths of whom had both lungs affected); that 25 per cent were neurological or orthopædic cases ; 15 per cent suffered from general medical disorders and 10 per cent from mental ill-health.

In reply to questions during the succeeding discussion, Dr. Harlem stated that the average length of stay in the Work-training Department was four to six months, and that all trainees contributed to the cost of their board and lodging in the Night Sanatorium in proportion to their earnings, but that the greater part of the cost was borne by the State.

CHAPTER VII

THE ORGANIZATION OF A HOSPITAL REHABILITATION DEPARTMENT OR CENTRE

Medical rehabilitation departments attached to hospitals may either form part of the hospital premises, as in the case of those visited in Stockholm and Copenhagen, or may be separate institutions, such as the Hyvinkää Centre belonging to the Invalid Foundation, Helsinki. Each has its special advantages. In the former case, it is possible to extend the activities of the department widely by admitting a large number of out-patients who live in their own homes but attend daily for a full programme of physical and occupational rehabilitation. In the latter case, the patients are removed from the hospital environment and are thus better able to forget that they were patients and concentrate their attention on the recovery of self-confidence and work-capacity.

An interesting experiment in the combining of these two functions was demonstrated by Dr. B. ÅKERBLAD, Physician to the Work Clinic attached to the Karolinska Hospital, Stockholm. This clinic, which is functionally allied to the hospital, but is situated just outside the hospital grounds, is under a joint direction in which the medical, psychological and employment sides are all represented. Patients unable to return to their work as the result of illness or injury are carefully tested, both physically and psychologically, as to their work-capacity and powers of endurance, and are then given an opportunity of trying various forms of industrial work. During this period, they follow prescribed hours and are paid for their work at normal trade rates, but are kept under strict medical and vocational supervision before attempting to return to normal employment.

The organization of a hospital rehabilitation department or centre follows the same general pattern in most institutions, consisting of medical consulting and examination rooms for the physicians in charge, a physiotherapy department (with modern equipment for treatment by massage, heat, electricity or hydrotherapy), a remedial gymnasium, an occupational therapy department, and rooms set aside for the use of the social workers. This important social department, which is only too often omitted or crowded into quite inadequate space, was seen to great advantage at the Orthopædic Hospital, Copenhagen, where Dr. A. W. MORTENSEN acts as social adviser and vocational counsellor to the sufferers from orthopædic disabilities.

The **Training of the Rehabilitation Team** formed the subject of special lectures and talks by Dr. Sv. CLEMMESEN, Chief Physician of the Department of Physical Medicine at the Municipal Hospital, Copenhagen, and members of his staff.

> Dr. Clemmesen gave an interesting historical review of the development of Physical Medicine as a specialized branch in Denmark, and of the increasing place given to this speciality in various hospitals. He drew particular attention to the value of electromyography as an aid to the building up and training of individual muscles affected by disease or injury ; to the important contribution of the trained nurse in the wards of a physical medicine department ; to the research which is being carried out in rheumatology, and in disabilities caused by vascular disturbance ; and to the need of closer team-work in prescribing and carrying out the rehabilitation of each individual patient. He also gave details of the training required in Denmark by physicians desiring to practise as Physical Medicine Specialists.

The **Training of Physiotherapists** was described by Miss Louise HEERING, who explained that there are two schools authorized by the Danish Medical Association, Teilmann's School and the School attached to Skodsborg Sanatorium.

> There is no special entrance examination, but students are encouraged to have the Higher School Certificate or matriculation certificate. Training at Teilmann's School takes two years, followed by four months' volunteer work in the physical medicine department of a general hospital. Examination is in two parts : Part 1, anatomy and physiology, taken at the fourteenth month of study ; Part 2, final subjects taken in the last month of study. In order to take Part 2, a student must have passed Part 1 and be 21 years of age. Every six months forty students leave the school and go to eight different hospitals as volunteer workers.

Occupational Therapy in a Hospital Physical Medicine Department was described by Miss WEDELL-WEDELLSBORG, who stated that the aim of occupational therapy was the restoration of function :

> 1. By using a suitable occupation as a form of remedial exercise.
>
> 2. By using occupational therapy as a diversion to prevent long-term patients becoming hospitalized.
>
> 3. By using a period of remedial work under sheltered or normal conditions to bridge the gap between the patient's discharge from treatment and his resumption of full work.

She stated also that in her hospital there was one department for occupational therapy for mental cases and one for cases that were purely physical.

She stressed the importance of teamwork between the doctor, the physiotherapist, the social worker, the nurse and the patient himself.

Before leaving Denmark, members attending the Course also had an opportunity of visiting the School of Occupational Therapy, under the direction of Mrs. E. STURUP, where 51 students are engaged in a two and a-half years' course of instruction in a variety of handicrafts (embroidery, weaving, book-binding, clay-modelling, etc.), including a period of hospital practice under trained occupational therapists.

The **Training of Social Workers and Their Function in a Rehabilitation Department** was described by Miss EBBESEN, who explained that the School for Social Workers was founded privately in 1937 and is now subsidized by the Ministry of Social Affairs, though not connected with the University.

There are no formal requirements for admission to the school, but applicants must be between 22 and 30 years of age and have had at least one year's previous experience in social work. The course of basic training is two years. Most of the social workers are employed in hospitals, dispensaries, welfare centres, employment and public assistance agencies, and in prisons. The work is divided into three parts : practical, personal and commercial, and psychological. In practice, the three parts of the course cannot be separated. The practical side "faces outwards towards the community" and the psychological side "faces inwards towards the patient himself". She cited various examples of how the practical side of the work was implemented. In conclusion, Miss Ebbesen stated that collaboration is necessa rynot only between the doctor, the social worker and the patient, but also between the various institutions which are able to give financial help for education and training. She then stated that what outsiders consider are small things may for the patient be insuperable difficulties which can militate against his obtaining psychological, economic and social recovery.

The Principles of Remedial Exercises, as carried out in a modern rehabilitation department, were explained by Miss ASTRID KROGH in the following terms :

"Remedial exercises have in Denmark been brought into renewed existence and completely reformed on the basis of the research which has been done concerning muscle tone and muscle contraction. The experiences which have been gained through electromyography have made it possible to distinguish systematically between muscle contraction, muscle contractures, and muscle spasms.

"We have been forced to take into consideration the passive, elastic forces in the muscles which, together with gravity, determine the resting positions and intermediate positions of the joints. The passive, elastic forces assist or resist the muscle contractions, and have a guiding influence on any kind of muscular work.

"The conception of this sliding equilibrium has been of fundamental importance to our evaluation of the variable concept of working positions (or, better, working movements), and posture (or, better, carriage), and it has been possible, by means of remedial exercises, to evaluate and adjust working movements rationally, so that the stamp of work and age is counteracted, and a harmonious muscle development secured.

"All natural movements and all kinds of work take place in intermediate position, while extreme positions with loading of bone and ligaments are avoided. Generally, the flexor muscles are used much more than the extensor groups, and it is therefore necessary to take care that also the extensor groups take their part of the work. Consequently, rhythmical, dynamic movements should be preferred to static contractions, and in our remedial exercises we try, first and foremost, to develop the extensor muscles, and we see that the joints are moved into extreme positions, so that the natural motility of the joints is kept up.

"When we want to train muscle strength and endurance, we prefer self-resisted exercises and exercises with tetanic-resisted contractions of long duration. A wrestler, for instance, is using that kind of contraction all the time during fighting and therefore his muscles are over-developed in comparison to those of a boxer, who is using mostly dynamic, rhythmic contractions, while *he* is fighting.

"It is quite clear that remedial exercises must be built up on these principles for medical purposes, but also in industrial medicine we are now able to work on a rational basis when we work with preventive adjustment of working movements. All the modern, semi-scientific talk of 'relaxation' is pushed into the background, because the word has no meaning, unless it is, in each case, followed by an evaluation as to the kind of relaxation the patient is to have—in other words : The patient will have to learn to relax, but what for ? Do we want to teach him to avoid unnecessary muscle contractions, so that he learns to work more economically, or does he have to learn to relax his muscles completely to be able to rest and fall asleep, or is it for purely psychological reasons that we want him to relax ?

"The modern remedial gymnastics developed within this pattern is the answer to the challenge met with daily in rehabilitation. Functional training is all right, but, before that, rational remedial exercises are needed, and to be able to work out rational working positions and working movements for the patient, when he is that far, the same basic knowledge is needed.

"Training in daily-life activities is one thing, functional training to be able to do ordinary work another, and the final adjustment and adaptation of rational working movements another again ; but each of them is of equal importance with a view to the final rehabilitation and resettlement, and each of them should be supported and reinforced by remedial exercises."

Swedish Therapeutic Gymnastics. A lecture on this important subject was also given at the Karolinska

Hospital, Stockholm, by Dr. NILS SILFVERSKIOLD, Chief of the School for Physiotherapists.

He gave an interesting historic review of the Central Institute for Gymnastics, as founded by Ling, with its divisions into pedagogic gymnastics and sport, military gymnastics (e.g., fencing, æsthetic gymnastics, dancing, etc.) and medical gymnastics, and explained that medical gymnastics was subsequently transferred to the Hospital as a form of general medical care.

The training of physiotherapists in the basic sciences is given by the same instructors as for medical students, but is shorter, and adapted to the needs of medical gymnastics.

The lecture went on to examine the importance of active movements, passive movements, massage, hydrotherapy, etc. A distinction was made between local and general treatment. The localized treatment in medical gymnastics is applied to a limited area, such as a joint and the immediate area round the joint. The general treatment in medical gymnastics is aimed at raising the general condition of the patient. It is stimulating for the individual and is of psychological importance. It is used above all in cases of illness of long duration and is of great importance in the treatment of convalescents.

At the end of the lecture, Dr. Silfverskiold, through one of his physiotherapists, demonstrated a case of a female school teacher, aged 40, who ruptured her left *tendo Achillis* whilst playing tennis. He described his own operation for this condition and also gave a demonstration of the after-treatment and the very excellent result.

CHAPTER VIII

THE ADAPTATION OF THE DISABLED TO THEIR HANDICAP

In dealing with the problem of physical disability, the first objective of a national health and social service will always be the prevention of its occurrence or the reduction of its effects. In many cases, however, neither of these desiderata is possible—either because of the initial severity of the attack or because of the long period which has elapsed before the patient comes under skilled attention. In such cases, the chief function of a rehabilitation service must be directed towards an attempt to enable the physically handicapped child and disabled adult to face the facts of the situation without fear or defeatism, to adapt themselves to the existence of their disability, to concentrate their thought and efforts upon the development and training of their residual capacity, and to learn to master their handicap and mix on equal terms with their fellows.

It is here that the trained social worker, the wise psychiatrist, the vocational assessor and the vocational counsellor have such invaluable contributions to offer ; but the doctor who has charge of the case and has secured the patient's confidence by his skill and understanding should take a leading part in utilizing their services to the full and obtaining the patient's co-operation in their efforts.

It was pointed out by various lecturers that social workers are not employed as much as could be desired in the hospitals in Sweden, Finland or Denmark, and it was not therefore possible for those attending the course to study this aspect of their work, except in a very few institutions. The visits which were paid, however, to the special schools and centres for the disabled—such as the Norrbacka Institute, Stockholm, the Schools for Cripples in Helsinki and Copenhagen, the Montebello Neurosis Centre at Elsinore, etc.—and the lectures and demonstrations which were there given by Miss Højer, Professor Langenskjold, Dr. Mortensen and Dr. Oestergaard, provided convincing proof of the methods by which the severely disabled could be assisted and taught to adjust themselves to their disabilities and obtain the mastery over them.

The important part which the social worker can play was also repeatedly emphasized in this connection. One of the Group Discussions was entirely confined to this question, and in an opening address Dr. SAILER stressed the point that such a worker is not merely needed to enable a disabled person to meet his economic needs (e.g., by supplying him with information regarding social insurance, public assistance, help obtainable from private agencies, etc.), but—far more important—to satisfy his basic needs, so that he may be able to participate in the life of the community as an independent and self-supporting member.

After referring to the specific function of the social worker in her contacts with the family, as an essential member of a rehabilitation team in hospital or rehabilitation centre, and as a follow-up worker after a disabled person's return home, Dr. Sailer stressed the importance of proper training for such helpers.

> Only a trained social worker will be able to understand a person, evaluate his situation and know how to make best use of the existing legal provisions, institution and community resources. She knows that in every case there is a personal or internal aspect as well as a social or external aspect, but she has been trained to look at the individual in his situation as a complex entity. She has therefore not only to collect information but also to analyse it and evaluate it, in order to decide what services would be adequate ; often she had to render these services directly. The social worker has to understand the disabled person not only on the basis of his rational explanation, but also his feelings about his situation, which may be as real to him as the objective reality. The social worker, therefore, has to learn to understand human behaviour, she has to know about the psycho-social development of the individual, his needs at the various stages of his development, and his possible reactions if these needs remain for a longer period or are constantly unsatisfied.

Dr. O'MALLEY, speaking from his experience as Director of an important Rehabilitation Centre in England,

> agreed that the social worker was the essential link between the patient and all other members of the rehabilitation team, whether in hospital, at a rehabilitation centre, or in the vital task of assisting the disabled person to make the necessary adjustments at home, in his community, or in employment. She was responsible for giving advice on legislation, finance, ordering of appliances, etc. The social worker also had an important job in industrial rehabilitation units, vocational training centres, sheltered workshops and in the organization of home work. He emphasized that the patient's social history should be passed on from one social worker to another, and that this social history was of great importance to the doctor, as it often contained information of vital importance which was not available in the medical notes. He cited the example of a change in personality occurring in a patient following a severe head injury. This change had been noticed by friends and relatives who had informed the social worker but had omitted to

inform the doctor in charge of the case. Dr. O'Malley stressed the importance of team-work and that the social worker should on no account work in isolation but should always be present at case-conferences and whenever a decision was going to be made regarding the future of the patient.

In assisting a disabled person to become adapted to his handicap and to overcome it, other agencies besides those of the doctor, the psychiatrist and the social worker are also needed. He may require special appliances or technical aids, a reference to which will be found in Chapter XII. He may need a certain degree of financial assistance, such as the various social security schemes described in Chapter XIII. Or he may have to be trained for an entirely new job, if he is to become an independent and self-supporting member of society. This problem of Vocational Training, as it is usually called, is no longer conducted on the empirical—or "trial-and-error"—lines which characterized earlier efforts, but is now divided into four definite stages :

(a) *Vocational Assessment*, which includes all methods, whether physical, psychological, or technical, of determining an individual's capability, personality and aptitude ;

(b) *Vocational Guidance*—or the advising of the patient as to the best form of vocation for him to select, in the light of previous assessment tests and careful interviews ;

(c) *Vocational Training*—under normal conditions, wherever possible, and by expert instructors ;

(d) *Selective Placement and Periodical Follow-up*, at the termination of the period of training and at regular intervals afterwards.

Subsequent chapters will deal with the subject of Training and Employment, but the question of vocational assessment and guidance forms part of the problem of helping the disabled person to become adapted to his handicap, and a report of a lecture and demonstration on this subject is therefore included here.

Vocational Assessment and Guidance

Lecturer : Mr. A. J. TAMMINEN, Vocational Counsellor at the Invalid Foundation, Helsinki.

By means of a clear and helpful diagram, Mr. TAMMINEN described vocational guidance as the fulcrum on which the whole scheme of rehabilitation and resettlement was balanced, and pointed out that the choice of a right vocation was the most important step in life for every man or woman.

Organized vocational guidance therefore occupied an essential place in any modern social system, but that, to carry it out successfully, the counsellor must know all that was possible both about the individual and about the job. Successful vocational guidance could only result from good team-work between the doctor (giving expert advice on physical capacity and disability), the teacher (assessing mental ability and educational progress), the psychologist (determining aptitude and potentiality, by interview and by specially designed tests), the social worker (supplying important information on home conditions and environment) and the labour expert (with knowledge of employment opportunity, possibilities of training, wages available, etc.).

Mr. Tamminen stressed the value of widespread information about possible vocations, both amongst pupils, their families and the disabled, but pointed out that the vocational urge so stimulated might be genuine (resulting from an appeal to latent desire and interest) or might be misleading (from an exaggeration of the individual's estimate of his own capabilities), and needed to be carefully checked by the counsellor's observation.

It was essential for the vocational counsellor to work in the closest possible co-operation with the physician or surgeon caring for a disabled person, and for the medical staff to assist in providing advice and treatment related to vocational opportunity, e.g. : by full and expert medical treatment and physical rehabilitation, by the performance of surgical operative measures adapted to fit the patient for his future type of occupation, by cultivating the patient's confidence and reassuring him of his possibility of useful work, and by giving direction as to the conditions which should be avoided. Although physical disability is nothing like as important as personal character and will-power as a factor in deciding vocational guidance, it must always form the basis of successful advice by the vocational counsellor.

In conclusion, Mr. Tamminen outlined the following five points as those which are essential for vocational assessment and guidance :

(1) A knowledge of the limits imposed by the physical disability, always remembering the wide range of occupation open to most seriously disabled people, provided they possess the right personality and will-power (e.g., double upper-arm amputees working successfully as house decorators and lorry drivers) ;

(2) A specialist's opinion on the disabled man's general state of health (e.g., his visual acuity, physiological functions, etc.) ;

(3) Acquaintance with the patient's previous experience and skill, which should always form the basis of his vocational training if at all possible ;

(4) Information as to the possibility of finding a suitable job for the disabled man near his own home or in similar environment ;

(5) Expert observation of the man's interests, desires and talents, of his general aptitude (e.g., for work demanding great dexterity, speed and frequent change, or for work of a slower and more repetitive nature), of his personality and social behaviour, and of his general character ;

Such observation cannot be carried out successfully in a short interview but needs a considerable period of testing, hence the value of the

work-training department at the Karolinska Hospital, Stockholm, and the State Rehabilitation Centre, Oslo.

In the discussion which followed, Mr. Tamminen agreed on the important role of the social worker at all stages of vocational assessment and guidance, and of the valuable service such workers were able to render in all hospitals and training centres. He stated that, at the Invalid Foundation Vocational Training School, two male and one female vocational counsellors were employed.

Psychological Tests of Vocational Ability

Lecturer: Mr. Poul BAHNSEN, Director of the Psychotechnical Institute, Copenhagen.

This institution, which belongs to the Copenhagen Municipality, employs psychotechnical tests for those desirous of vocational training—both able-bodied and disabled—and assists in the selection of personnel for particular jobs.

In an introductory talk, during a visit to the Institute, Mr. BAHNSEN reviewed the policy which had been followed in aptitude-testing for employees of the Municipality of Copenhagen, such as clerks, policemen, transport drivers, etc. Mr. Bahnsen gave a summary of psychological investigations of invalids and the follow-up. Two investigations were made, one in 1938-39 and the other in 1948-50. In the first of these, 200 invalids were divided into three groups according to the psychological results. A comparison between these groups was made according to

(1) the number receiving wages,
(2) the size of the income and,
(3) the kind of occupational training;

and showed

(*a*) that the number of persons receiving wages is higher in the highest ability group (73 per cent of these earn a living compared with 46 per cent in the lowest group),
(*b*) that the average wage in the highest group was about double the amount of those in the lowest group, and
(*c*) the training in qualified professions has been used almost exclusively in the highest group, whereas the persons in the lowest group avoid employment in unskilled work.

In the case of the second follow-up, invalids were also divided into three ability groups, but this time the division was based on the psychological statement rendered, compared with the degree of training. For the persons in the first group, no aptitude deficiencies had been found in the psychological examination. For those in the second group, deficiencies had been ascertained, but were not serious. The third group consisted of persons whose abilities were considered insufficient for a suggested occupation. The percentage of persons within the three groups who had to interrupt training as a consequence of deficiencies in ability was found to be 7 per cent in group 1, 18 per cent in group 2 and 72 per cent in group 3. A special investigation of the persons in group 3 who had completed their training (8 cases) showed that, in about half of them, it was doubtful whether they could continue their work in a satisfactory way.

CHAPTER IX

THE ASSESSMENT OF INDIVIDUAL WORK-CAPACITY AND WORK-TOLERANCE

Before a disabled patient can be trained for regular employment with any hope of success, it is not only necessary to assess his vocational ability by such measures as have been described in the previous chapter, and to secure his confidence and willingness to attempt such work ; it is also of great importance to apply some scientific test of his capacity for enduring physical and nervous strain, and of the demands made upon the individual worker by various types of industrial processes.

Hitherto, there have been no scientific criteria upon which to base the amount of work which a disabled man can be expected to accomplish, day after day, nor the type of occupation in which his particular disability will not hinder his productive output.

The valuable research work which has been done in recent years in this direction, particularly at the Royal Central Institute of Gymnastics and the Royal Institute of Technology, Stockholm, in the Karolinska Hospital Work Clinic, Stockholm, and at the Physiological Department of the Institute of Occupational Health, Helsinki, has gone far to provide such scientific basis of work-capacity and job-analysis, and formed the subject of special lectures and demonstrations of which the following is a summary.

Work Physiology and Tests of Work-capacity

Lecturer : Professor E. HOHWÜ-CHRISTENSEN, Chief of the Royal Central Institute of Gymnastics, Stockholm.

> "The energy for muscular work will be delivered by oxydation processes and consequently work of any intensity will increase the demand for oxygen. In heavy manual labour, the oxygen intake may rise tenfold compared to resting conditions. The oxygen will be taken up from the lungs and carried by the blood to the working muscles. Work is possible only if respiration and circulation are able to fulfil the needs for oxygen, and the working capacity will often be limited by the capacity of the oxygen transport system. It seems therefore logical to use the oxygen-transport capacity as an indicator of the physical working capacity. This has now been done in an extensive series of experiments by Åstrand of this laboratory.
>
> "Åstrand has made a study of normally healthy subjects, girls and boys from the age of 4 to 5 years, and from 25 to 30 years. It is now known what to expect from these age-groups. As Åstrand's methods were complicated and not suited for the testing of the work-capacity of a great number of people, Ryhming has now tested a similar group of people by (1) the complicated bicycle-ergometer method and (2) a modified Harward step-test, to see if the result obtained from the step-test was sufficiently accurate for practical work.
>
> "It was found that there was a correlation between these two methods and that the step-test was a reliable method of investigation."

Professor Hohwü-Christensen then stressed the importance of an analysis of the jobs to be performed in the environment in which they are normally performed. He quoted an analysis from a physiological point of view of the various jobs in a factory. He sent teams out into industry to dermine the normal physiological stress of many different jobs. He summed up that the problems of work physiology to-day are :

1. To determine the physiological effect of muscular work on the human body, and to examine the influence of sex and age.
2. To test the working capacity of large groups of women and men, young and old, to be able to decide what work load can be recommended for different groups and individuals.
3. To do job-analysis of many different jobs, to know where to place a certain group of individuals with a known capacity.

In the discussion which followed, it was pointed out : (*a*) that work-capacity is related both to the oxygen intake and to the pulse rate ; (*b*) that the optimum load for continued work should not exceed 50 per cent of maximum capacity ; (*c*) that regular rest periods and a moderate speed of work are essential for continued activity ; (*d*) that the amount of hæmoglobin and the blood volume have a direct relation to the oxygen intake ; (*e*) that there is a uniform relation between the two sexes, each having the same capacity to make the fullest possible use of physical resources ; and (*f*) that age, environmental conditions and psychological factors must all be taken into account in determining work-capacity or the choice of suitable employment.

The step-test, which was demonstrated by Miss Ryhming as one of the simplest means of determining work capacity, was carried out by taking the patients' pulse before mounting a step of a given height (47 cm. for men, 33 cm. for women, and 22 cm. for old people) at a given rate (40 or 60 steps per minute), and then 1 minute after the test was completed. The time taken for the pulse to return to its normal rate was also noted.

Physiological and Kinesiological Aspects of Motion Studies

Lecturer : Dr. FRITIOF SJÖSTRAND, Associate Professor of Anatomy, Stockholm.

Professor SJÖSTRAND divided the examination of working capacity and motion studies into three main parts, namely : (*a*) anatomical facts, (*b*) physiological principles, and (*c*) biological observations.

He stated that, as regards the problem of the disabled, there were two main points to be considered : (1) the adaptability of the body, and (2) the importance of systematic and efficient training.

He took the example of the working of the elbow joint to demonstrate the principle of the "reciprocal innervation of antagonistic muscles" ; he demonstrated the biceps muscle as an example of a thick muscle with a small contraction producing a large arc of movement. He mentioned that, in any movement of the joint, there were three groups of muscles involved : (1) prime movers ; (2) guiding muscles ; and (3) stabilizing muscles.

In the past, it had been the usual practice to classify movements into arm movements, leg movements and trunk movements, but this was a misleading classification, as the arm could not move without the balancing and stabilizing effect of the trunk muscles. He also gave other examples of the same phenomenon in both leg and trunk movements. He illustrated, by means of a diagram on the blackboard, the various factors in the mechanism of co-ordination of movement, which he analysed into : (1) influences from sense organs ; (2) influences from the eyes ; (3) influences from the ears ; (4) influences from joint and muscle sense ; and (5) conscious influences, which are sometimes inhibitory, and unconscious, facilitating influences.

Dr. Sjöstrand stressed that conscious control of movement was the greatest inhibitory factor. He gave the effect of music as an example of facilitating rhythmical movement, and emphasized the importance of training and continual practice in order to effect efficient function. He cited piano-playing as an example.

If these principles were important in the training of normal people, how much more important were they in the rehabilitation of the disabled.

He went on to speak about the importance of the increase in the blood volume in the muscles in order to carry out a high intensity of work, the maximum performance being conditioned entirely by a corresponding increase in the blood volume. The following were his rules for body motion :

(1) Start movements with the muscles extended ;
(2) Avoid slow muscular action, and concentrate the action of the muscle to a short period of time :
(3) It is important to change posture, as posture muscles are working continuously ; therefore avoid any unnecessary continuous contractions of muscles ;
(4) It is important to relax where work is concerned ;
(5) Use rhythmical movements ;
(6) Work below the maximum performance.

Dr. Sjöstrand quoted the following principles of training :

(1) Adapt the body for its maximum performance ;
(2) Training may be different for each tissue and function ;
(3) Train the central nerve system to stimulate as many muscles as possible ; therefore, frequent repetition.

Clinical Physiology as an Aid to testing the Work Capacity of Individual Patients

Lecturer : Dr. TORGNY SJÖSTRAND, Chief of the Clinical Laboratory, Karolinska Hospital, Stockholm.

A test of physical working capacity can be of great value in cases that have ceased employment due to physical and psychological illnesses. It was often found that there was no direct relationship between the subjective feelings of the incapacitated and the results shown by a test.

An attempt was therefore made to obtain a routine diagnostic method for testing the physical working capacity and the respiratory function in cases of heart and pulmonary diseases. By these means disabled individuals could be classified in relation to their work capacity. Work capacity was estimated by means of a bicycle-ergometer. Objective recordings were made of the pulse rate, the electro-cardiographic findings and the respiratory rate, the pulse rate being increased relative to the respiratory rate in cardiac cases. The respiration rate increased relative to the heart rate in cases of pulmonary disease.

Some Aspects of Physiological Measurement of Disability

Lecturer : Dr. M. KARVONEN, Chief of the Physiological Department, Institute of Occupational Health, Helsinki.

This lecture, whilst demonstrating tests of work-capacity similar to those described above, showed at the same time how such tests could be related in a very practical manner to the physiological demands of various types of industry, particularly to those connected with agriculture, forestry and railway work.

Dr. KARVONEN emphasized the fact that such tests were mostly mechanical in character and that functional capacity also depends upon the degree of co-operation secured from a patient, and upon the

various psychological and social factors affecting his enthusiasm for sustained effort.

In reply to enquiries in the subsequent discussion, Dr. Karvonen stated that the various tests which he had described could equally well be employed in testing the capacity of invalids gradually recovering from illness or injury, or in those whose physical condition is deteriorating as a result of progressive disease, and that, of the various tests of cardiac efficiency, the rate of recovery of the pulse after a standard weight-raising effort (e.g., mounting a step of fixed height a certain number of times per minute) is probably the simplest and most accurate guide.

Work Rationalization and Job Analysis

Lecturer: Professor R. KRISTENSSON, Chief of the Department of Industrial Economics and Management, Royal Institute of Technology, Stockholm.

Professor KRISTENSSON started by giving some of the history of this problem, stating that it was first introduced into industry by an American engineer, F. W. Taylor.

Taylor, by the use of the stop-watch, made a comprehensive analysis of the work involved, breaking down into components the work to be done. The importance of rest-periods as a result of this study was emphasized. The work of Frank and Lilian Gilbreth consisted of further break-down into smaller elements and of analysing these elements in a simochart. The principles of the analysis were then discussed, as well as the principles used in improving the operations and processes of industry. Professor Kristensson emphasized four parts of the analysis :

(1) The time taken to perform each component part of the problem ;
(2) The importance of the place at which the work was done ;
(3) The importance of the person doing the work ; and
(4) The method by which the work was carried out.

He stressed that the analysis of the problem was only half of the treatment. The other half was a synthesis in order to find out a better and more efficient method of doing the job. Finally, he emphasized the general principles applied in job analysis and work rationalization. He discussed these principles in relation to the goal of the job of the single workman and the aim of industry as a whole.

Professor Kristensson showed various lantern slides to underline the importance of :

(1) Relaxation ;
(2) The technical adaptation of machine to man ;
(3) The technique of movement ;
(4) The incentive for increased production ;
(5) Co-ordination and identification of the workers with the aim.

Analysing the Requirements of Jobs and the Capacity of Workers

Lecturer: Mr. B. HANMAN, Industrial Psychologist, Stockholm.

Mr. HANMAN, having described the purpose of job-analysis as that of placing all handicapped persons in suitable work, explained that the aim of selective placement must be to secure healthy, happy and satisfied workers, with resulting increase in productivity, reduction in costs, and limitation of absenteeism or invalidity. Job-placement must therefore not only conform to the worker's individual capacity but also call out his highest skill. He must be put on to a job in which he neither increases his disability, injures himself, nor jeopardizes other people.

After speaking of the difficulty of assessing the size of the problem, owing to the differing standards of physical disability employed in different countries, Mr. Hanman referred to the various tables which had been drawn up in America as the result of extensive research on job-analysis. The industrial physician and industrial psychologist, when endeavouring to match an individual's work-capacity with the requirements of a particular job, must take careful account of the psychological as well as the physical factors. He stated that methods of job placement might be divided into four categories :

(*a*) The intuitive method, which was largely guesswork ;
(*b*) The compiling of disability lists, which laid emphasis on disability rather than on residual capacity and potential reserves ;
(*c*) The preparation of rating scales, which was apt to be too mechanical in operation ;
(*d*) The specific method, whereby the physical fitness and psychological reactions of the worker were analysed and assessed in relation to the requirements of the work to be undertaken.

The value of rating scales as to the degree of muscular effort required by a particular job, of the conditions under which it had to be performed, of its demands on such qualities as speed, concentration, dexterity, etc., was fully explained, but the fact that an individual worker's ability to overcome his physical handicap varies greatly in relation to his attitude to the work proposed and the amount of incentive offered must never be forgotten.

Further details of Mr. Hanman's lecture are contained in the book on "Job Analysis" which he has recently written.

Electromyographic Studies of Posture

A valuable film on this subject was demonstrated by Dr. FLOYD, of the Department of Physiology, Middlesex Hospital, London, showing the result of important research work carried out by himself and Dr. Silver, of the same hospital.

The film consisted of electromyographic studies of muscles at rest and contracting, by means of three surface electrodes : (*a*) one earthed and (*b*) two on the muscle to be examined.

He first demonstrated the action of the biceps muscle and then made a study of the role of the *erector-spinæ* muscles in the maintenance posture. He showed that :

(1) When in the erect position, and when the body was tilted backwards, there were no contractions of this muscle ;

(2) On bending forward, muscles started to contract ;

(3) In the position of full flexion, muscles were completely relaxed and there were no contractions, the position being maintained by the Ligamentum Flavæ and the cartilaginous intervertable discs.

This demonstration showed the importance of learning to lift weights properly. The straight-back method, using the legs, was the best from the point of view of body function, but it was expensive as regards effort.

Dr. Floyd closed with the statement that this was an example of how electromyography could be used in medical research.

CHAPTER X

VOCATIONAL TRAINING AND EMPLOYMENT SERVICES FOR THE DISABLED

Members attending the Group-training Course had the opportunity of visiting a large number of different types of vocational training centres, particularly in Finland, where great ingenuity has been shown in fitting vocational training not only to the particular disabilities and capabilities of the disabled, but also to the social environment and industrial opportunity of the community to which he belongs. Thus—in addition to the conventional training centres for would-be carpenters, metal-workers, tailors, shoemakers, printers, upholsterers, etc., such as are to be found in most countries—Finland has centres for those who wish to take part in agricultural pursuits or market gardening ; centres for instruction in rural handicrafts ; centres for such skilled work as engraving, radio-repairs, watchmaking, etc. ; and opportunities for those able and willing to take up cultural and professional careers.

The following are extracts from the chief lectures and discussions on this aspect of rehabilitation.

Vocational Training

Lecturer : Dr. E. LUUTOLA, Headmaster of the Vocational School of the Invalid Foundation, Helsinki.

The Disabled Persons and Vocational Rehabilitation Acts provide opportunity for the maintenance and training of all disabled persons between the ages of 16 and 40, at the expense of the State.

Such training may be given in a resident centre, in a normal vocational school, or "on the job". There are six Residential Training Centres in Finland, with accommodation for 900 trainees, and such centres have the advantage of providing protection and security to the severely disabled, and enabling them to assist one another in meeting common problems.

The length of training is usually about three years, depending on the type of occupation, syllabus, quality of instructor, etc. ; and theoretic instruction and general education are combined with practical work. Languages, civics, music and other general subjects are included in the curriculum, and all trainees, whether male or female, have a course in domestic economy.

Rural occupations include housebuilding, stonemasonry, plumbing, the repair of farm machines, blacksmith's work, etc, as well as the conduct of simple commercial enterprises.

All trainees have a probationary period before being advised as to their permanent course of training, and are offered a wide range of occupation, those with good education being given the chance of entering a Higher Technical College. The whole aim of the training is to make each disabled person independent and self-supporting and to prepare him for the best type of vocation for which he has the necessary ability and for which there are employment openings.

Selective Employment

Lecturer : Mr. Kurt JANSSON, Director of Rehabilitation to the World Veterans' Federation.

Placement of the disabled can be regarded only as part of a general rehabilitation scheme, and starts at the wrong end if not related to early treatment and medical rehabilitation.

The objective of training is placement under competitive conditions in the open labour market. Selective placement means the use of specialized techniques and methods to find the right place for the right man. A physical handicap is by no means equivalent to a vocational handicap. A person can be severely handicapped and still be able to do a full-time job.

Mr. Jansson pointed out that, in order to find the right place for the right man, the vocational counsellor must know (*a*) the applicant and (*b*) the job. To have an understanding of the applicant, it is important for the vocational counsellor to have some knowledge of his personality, his training, experience, skills, emotional stability and, of course, his physical capacity. As far as the job is concerned, the vocational counsellor must be informed on the physical capacity necessary to perform the job, what skills and abilities the work requires, and the special environmental factors (heat, noise, etc.) under which the work has to be carried out.

Knowledge about the applicant is obtained through the employment interview, which also serves to stimulate the applicant for his work. The most common method employed for job analysis—apart from that described by Mr. Hanman—is a check-list of the physical requirements for the job.

In order that placement should be successful, several other points have to be borne in mind :

(*a*) Often minor adjustments to the machine to be used by a disabled man can help him to overcome his handicap ;

(*b*) The initial placement must have a close follow-up ; and

(*c*) The foremen, as well as the employer, should be made familiar with the psychological factors involved in disability.

Mr. Jansson then gave a short description of how selective placement is carried out in different countries, but whatever methods are employed the personal contact between the placement officer and the employer is indispensable.

Employment Services for the Handicapped

Lecturer: Mr. VEIKKO NIEMI, Inspector for the Care of Disabled at the Ministry of Social Affairs, Helsinki.

Mr. NIEMI explained at the outset that in Finland such services are not regarded as being primarily a problem of the labour market but as part of the rehabilitation system, and that it is therefore essential that there should be the closest possible integration between methods of rehabilitation and training, and employment in suitable vocations.

Such employment might be by means of placement in normal conditions ; placement in special conditions (as by the use of some degree of compulsion on employers in the form of a quota system, reserved occupations, or jobs in which priority is given to the disabled) ; self-employment (with asistance by grants or loans for the purchase of tools or necessary equipment) ; sheltered employment ; or work undertaken at home.

By means of carefully prepared maps and diagrams, Mr. Niemi pointed out that industry was mostly concentrated in certain parts of Finland where geographical conditions and communications were favourable ; that only 20 per cent of all industrial workers were engaged in factories with 500 or more employees ; that 38 per cent of industrial workers were women ; and that 67 per cent of the population live in rural areas, where the average farm was very small in area and the farmer was obliged to make a living by taking part in heavy lumber work during the winter—a form of additional employment for which the disabled are usually unsuited.

After describing the work of the former Labour Exchanges, and the difficulty experienced by Communal Exchanges to find suitable employment for the disabled, Mr. Niemi explained the important part which was now taken by the Vocational Bureau of the Ministry of Social Affairs, and the joint efforts of the Finnish League of Civilian and Conscript Invalids and the Disabled Ex-Servicemen's Association. These two latter organizations had established joint agencies throughout the country, with representatives of employers and trade unions, and were doing excellent propaganda work in finding suitable jobs for disabled men and women.

Selective placement based on job analysis had not been found suitable in Finland, nor was the quota system appropriate.

In a country in which 71 per cent of the land was occupied by forests and the main economy was built on the export of timber and its products, it was essential to find means of self-employment for the many disabled whose homes were in the rural districts, and who were not physically able to undertake the heavy manual work associated with forestry and sawmills. For that reason, great emphasis was placed on enabling the disabled to set up small businesses of their own, and considerable assistance was afforded them by the State, either by grants or by interest-free loans, for the purchase of necessary capital equipment and tools. Assistance was also given to domiciliary workers, both in securing necessary raw materials and tools at reduced rates, and also in marketing their products.

Quota Legislation or Voluntary Placement

A discussion on this subject was opened by Mr. Kurt JANSSON, who explained that, in a number of countries, there was a law in force according to which employers of a certain category are obliged to engage a certain percentage of handicapped workers.

The percentage varies from country to country and ranges from 3 to 10 per cent of the total number of employees in enterprises with at least twenty, or in some countries fifty, employees.

Some of the advantages of such a system are that those disabled who are capable of taking up a job in the open labour market can be placed to a great extent. In times of unemployment, the risk of their losing their jobs is smaller than under a system of voluntary placement.

The disadvantages of this system are :

(*a*) Registration of the disabled leads to segregation, with all the negative implications.

(*b*) Employers may tend to grade their employees as disabled in order to use up their quota.

(*c*) The distribution of the industry within a country may make it necessary to have disabled persons moving, which involves problems of transportation, housing, etc.

(*d*) Employers may take only the minimum required and not be willing to engage any more. For instance, in Germany, cases had occurred where employers were willing to pay the adequate wages without letting the disabled take up his work. This, however, was an exception.

(*e*) The problem of male and female workers may play a rôle, as men could not be placed in factories with female workers, because in many countries women receive lower wages for the same work.

In the discussion which followed, the representatives of different countries explained their government policy. The observation could be made that countries with over-employment did not favour the quota system, but, for countries where unemployment was a serious problem, the necessity to procure and safeguard a minimum number of jobs for the disabled was of primary importance.

Forum on the Employment of the Disabled

This forum was composed of Dr. C. J. S. O'MALLEY, Director of the Garston Manor Rehabilitation Centre, representing the medical aspect ; Mr. STEN TIBERG,

of the Telephone AB ; L. M. ERICSSON, Stockholm, representing industry ; Mr. ALBERT BERGH, representing the Royal Labour Board ; Mr. KNUT LARSSON, President of the Swedish Woodworkers' Union, representing the trade unions ; and Mr. CHARLES HEDKVIST, who is himself blind, representing the Association of Swedish Organizations of Disabled Persons.

Mr. TIBERG opened the discussion by describing the employment of disabled persons as carried out in his industry. He quoted experiences of the blind, the deaf and amputation cases. He also described the organization for home work and the use of sheltered workships for infectious cases of tuberculosis who were fit for work.

Dr. O'MALLEY then gave the results of a survey of 100 disabled unemployed in London and stated that he was in agreement that some work could be done by all disabled persons, provided they were confident and psychologically adjusted. He divided disabled people into three grades, which were flexible in character ; a disabled person could move from one grade to another, according to the influences which were brought to bear on him.

Grade 1 — a confident, adequate, industrious man who could do some work no matter what his disease or disability ;

Grade 2 — a relatively confident, relatively industrious, relatively adequate man who could be influenced. By good influence he could become Grade 1 ; equally by bad influence he could become Grade 3 ;

Grade 3 — an absolutely inadequate, absolutely lacking in confidence, absolutely idle man, the hard-core of the unemployables.

He then mentioned briefly the influences which were brought to bear on the sick and disabled : doctors, specialists, nurses, physiotherapists, relatives, friends, lawyers, Ministry of Pensions, workmates, employers.

If the summation of these influences were to the good, then Grade 2 disabled persons could become Grade 1, but if the summation were detrimental then Grade 2 could become Grade 3.

Mr. LARSSON stated that the trade unions had regulations of basic agreements with industry. He said that there should not be lower wages for handicapped workers, but, if the handicapped had to accept lower wages, the disability pension should make up their wages to the normal rate. He also stated that he was against home work, as it disrupted the home life of the family. He gave illustrations of the good relations between the trade unions and industry over this problem of employment of disabled workers.

Mr. HEDKVIST then stated that, in his opinion, the main aspect of the problem was that of a good training organization, which he did not think was ideal in Sweden. He also said that there was no adequate follow-up of what happened to disabled persons. Every time a disabled man lost his job because of an unsuitable placement, it weakened the case of the disabled worker with the employer. Mr. Hedkvist asked Mr. Bergh several questions regarding the setting-up of a follow-up organization and a training organization.

Mr. BERGH gave a long statement on the policy of the Royal Labour Board. The Board's aim was to produce normal employment for the disabled, and his opinion was that selective placement was the solution, efficient job analyses and assessment of working capacity having been previously carried out. He stated that there were not many training organizations in Sweden, but stressed that many disabled persons were trained on the job. He further stated that the reason for the lack of a follow-up organization was shortage of staff.

CHAPTER XI

SHELTERED WORKSHOPS AND DOMICILIARY EMPLOYMENT

In the course of his lecture on **Selective Employment** (referred to in the previous chapter) Mr. KURT JANSSON also discussed the problem of **Sheltered Workshop and Domiciliary Employment,** emphasizing the following points from his long experience as Secretary of the Finnish Disabled Ex-Servicemen's Association.

Sheltered employment is necessary for those disabled who are unable to take jobs under competitive conditions in the open labour market. For these people, sheltered workshops, adapted to their abilities as well as their needs, must be available, but Mr. Jansson stressed that the sheltered workshops have a twofold purpose :

(1) To train the disabled for placement in the open market. Therefore a constant movement in the sheltered workshops is indispensable.

(2) To provide work for those who will for a long time not be able to work in the open market. Sheltered workshops should therefore be a testing and conditioning place, otherwise they would create frustrated and hopeless workers.

In order to be successful, sheltered workshops have to fulfil certain requirements :

(*a*) They should produce only goods that can really be sold on the market ;

(*b*) They have to have a realistic basis, otherwise they will be regarded as charity with all the negative feelings attached to it ;

(*c*) They have to treat the sheltered worker with respect and dignity ;

(*d*) They should provide a comprehensive range of work ;

(*e*) There should be a number of workshops distributed throughout the country, none of them employing more than 100, so that they should not be too far from the domicile of the disabled (the question of transportation should be borne in mind) ;

(*f*) The wages should be based on the work performed—not per hour ;

(*g*) Working conditions should be satisfactory—their standard at least that of an ordinary workshop ;

(*h*) Public bodies should be induced to buy the products ;

(*i*) These workshops should be under the supervision of local communities or local social welfare associations.

Mr. Jansson then gave figures about the needs for sheltered workshops in different countries. In Sweden, for instance, approximately 9,000 out of 7,000,000 people need sheltered work.

Of these, 28 per cent are psychiatric cases, 20 per cent cripples, 28 per cent tuberculous cases, 6 per cent blind, 10 per cent rheumatic cases, the rest miscellaneous.

As far as domiciliary work is concerned, Mr. Jansson pointed out the necessity for close supervision from a medical, social and industrial point of view. It is especially important that no strain should be put on the family, that the work should not be detrimental to the health of the worker and there should be no exploitation of cheap labour.

Of course domiciliary work should remain only the *ultima ratio* and should be contemplated only when neither work in the open market nor in a sheltered workshop is possible.

A variety of sheltered and semi-sheltered workshops were visited by members of the Course, in Sweden, Finland and Denmark, the term "semi-sheltered" being used in Sweden for disabled people who only need to work for a short period (usually four to six months) under light or protected conditions before being able to engage in full employment in a normal factory. It is thus in some ways similar to the Work-training Department of the State Rehabilitation Centre, Oslo, and the Work Clinic of the Karolinska Hospital, Stockholm, previously described, but without the close medical and psychological supervision provided in those institutions.

The following is a brief description of some of the sheltered workshops visited during the course :

The Training Workshop and Work Centre for those suffering from Pulmonary Tuberculosis—a sheltered workshop organized and financed by the Municipality of Stockholm, with a grant from the Swedish Settlement Mission.

It has accommodation for 45 patients. There are 42 patients working, all cases of closed tuberculosis with the exception of one, which is a case of open tuberculosis. The patients work from 8 a.m. until 5 p.m., with an eight-hour day, having a mid-morning break. They are paid at piece-work rates. Patients are graded on arrival by the medical officer of the tuberculosis dispensary, the grades being two hours of work, four hours of work and eight hours of work. They are not, however, graded for the rate of work, and at the discussion the advisability of paying tuberculous patients at piece-work rates was questioned. It was considered that payment on a piece-work basis might produce too great a rate of working and would be incompatible with graded work for tuberculous

cases. The majority of the work carried out is minor light engineering procedures for the L. M. Ericsson Telephone Company.

The next sheltered workshop visited was that at *AB Carex*, which was evolved from the occupational therapy department of the Municipal South Hospital.

This is a semi-sheltered workshop for a variety of diseases except tuberculosis. Similar light engineering products are made as in the sheltered workshop previously visited. Wages are also paid on a piece-work basis. There are 33 patients working in the shop. At the discussion, it was thought that this was an ideal shop for those patients suffering from the unstable diseases—e.g., rheumatoid arthritis and psycho-neurosis. There is no particular organization for grading, but patients who had to return to hospital for further treatment could come back and work in this sheltered workshop. Some cases stay a long time in the shop and others are drafted into open industry. The importance of semi-sheltered workshops for unstable diseases was stressed.

A visit was paid to the *semi-sheltered workshop organized by the Uppsala County Council with the assistance of the Nyman Bicycle Company*.

The County Council provides the accommodation and defrays half the cost of the rent ; the Nyman Company is responsible for the stores, the salaries of the supervisors and the payment of the patients. The State also subsidizes up to 50 per cent of the salaries of the organizers of the sheltered workshop. The workshop accommodates 20 disabled persons who are directed to the shop by the Disablement Resettlement Officer of the District Labour Board in consultation with the Medical Officer in charge of the case. The patients are paid on a piece-work basis. There is a system of grading and the disabilities seen were 6 cases of low-back pain, 1 of infantile paralysis, 3 of rheumatoid arthritis and 2 psychological cases.

The *sheltered workshop and vocational training centre administered and organized by the Orebro County Council* was visited.

This is a new building which was opened in October 1951 and was so designed to give sheltered work and training to some 50 patients. It would appear that this centre is similar to an industrial rehabilitation unit in Great Britain, inasmuch as no specific training is given, but the workers' capabilities could be assessed under expert guidance and supervision. However, the Centre also acts as a sheltered workshop. During 1951, 35 patients were placed in work in the open market in such diverse activities as laboratory assistant, metal-worker, glove-maker, machinist, shop assistant, compositor, etc. The centre is a mixed one, women working on the top floor. There were no cases seen in wheel-chairs and it would appear that patients in wheel-chairs could use only the ground floor. Examples of machine and bench carpentry, lathe-work, welding, leather-work, knitting, weaving and sewing were seen. The medical supervision is under the Medical Officer of the Orebro County Council, except for the tuberculous cases, which are controlled at the tuberculosis dispensary. This centre also organizes work for the home-bound. The follow-up of these cases is the responsibility of the Disablement Resettlement Officer. Patients are paid at an hourly wage rate, and receive public assistance if necessary.

CHAPTER XII

THE PROVISION OF PROSTHESES AND TECHNICAL AIDS

One of the most practical and valuable forms of assistance to disabled people suffering from locomotor disabilities is the provision of suitable prostheses and other forms of mechanical appliance, thereby enabling them to become both mobile and independent. But there are hundreds and thousands who remain dependent and relatively useless for lack of such help. There are many causes for this deficiency. It may be due to bad surgery, resulting in ill-advised methods of amputation and painful stumps. It may be due to the lack of expert supervision in the prescribing and fitting of prostheses or braces or other forms of mechanical support. It may be due to lack of skilled technique in the after-care of amputation cases (e.g., the wrong habit of supporting the stump on a pillow, and the neglect of daily exercises and firm bandaging), and in the education of the amputee in the use of an artificial arm or leg. It may be due to high-pressure salesmanship on the part of commercial firms manufacturing and selling prostheses, resulting in the purchase by the amputee of a fine-looking artificial limb which is quite unsuited to his vocation and soon proves useless. It may be due to lack of proper provision for the financing, the upkeep and repair, the routine supervision by an orthopædic surgeon or nurse, or the replacement when needed, of prostheses which have been ordered by limb-fitting surgeons. It may be due to the absence of properly controlled limb-fitting centres and workshops for the construction of orthopædic appliances *in association with orthopædic hospitals.* Or it may be due to the lack of methods of transport, and of the various technical gadgets, which go so far to help a crippled man or woman become independent of outside help.

All these points, and many others connected with the type of rehabilitation, were discussed during the Course, and formed the subject of special lectures and demonstrations, extracts of which are given below :

The Preparation of Amputation Stumps

Lecturer : Professor K. E. KALLIO, Professor of Surgery in the University of Helsinki.

The Professor commenced by referring to the importance of the subject, owing to the very large number of amputees resulting from the war and from civilian injuries, and to the very serious physical and psychological effects resulting from the loss of one or more limbs. At the same time, the correct type of amputation, followed by expert after-care and the use of a well-fitted prosthesis, offered excellent opportunities of rehabilitation and independence for the amputee.

Professor Kallio reminded the audience that highly skilled conservative surgery could save a great number of seriously injured limbs and that the indications for amputation must therefore be very strictly applied. Unfortunately, primary amputation was often incorrect in character, resulting in stumps that were unfitted for any prosthesis and frequently developed painful sores. Such cases usually required re-amputation.

After referring to the great importance of careful attention to the site of the amputation, the shape and adequacy of the skin flaps, the arrangement of the muscles which would move the stump, and the great care needed in dividing nerves at the correct length (the nerve being rendered insensitive by injection of a local anæsthetic before division, in order to avoid shock), Professor Kallio dealt at length with the technique of after-care. This must include the psychological approach to the patient, in order to secure his confidence and co-operation ; the early use of bandaging and exercises for the stump ; the avoidance of pillows and encouragement of early movement ; the importance of applying a temporary prosthesis as soon as the stitches were removed and the wound soundly healed ; and the value of early lessons in balance and correct gait. The fact that the shorter the stump the greater the need of after-care, must always be borne in mind, as also the greater sensitivity of stumps of the upper limb, and the fact that stumps usually continue to shrink in size and alter in shape for a period of six months after amputation.

Professor Kallio described in detail the problem of phantom pain and the relative part caused by peripheral irritation, by central pain-sense and by psychological factors in producing this distressing complaint. He stressed the value of diversional handicrafts and early occupational therapy, as a means of reducing the incidence or degree of phantom pain, and of the temporary (and sometimes permanent) relief secured by sympathectomy.

In the case of the upper limb, the finest prosthesis could never replace the hand, owing to the loss of sensation, and it was this fact, combined with the far greater power and dexterity for a wide range of movements, which made the Krukenberg operation so valuable. Professor Kallio showed a film demonstrating its use, and the possibility of employing a properly fitted prosthesis on a Krukenberg stump.

He stated that, of 1,500 cases of amputation surveyed in Finland, a large number of lower-limb amputees had suffered from chondro-malacia of the patella, and that other diseases of amputation stumps included osteitis, trophic sores, dermatitis and pruritus.

After Professor Kallio's lecture, Miss AINO WILKSMAN, head of the School of Physiotherapy at the Invalid Foundation, gave an interesting account of the actual measures which should be employed in the treatment and after-care of amputation stumps, emphasizing the following points :

1. Exercises of the muscles of the stump should commence in bed from the second day after the amputation. (Miss Jarvio subsequently stated that, for lower-limb amputations, quadrator-exercises are given for five minutes every hour.)

2. A series of exercises, including weight-resistance, should also be given for the whole body, in order to increase general circulation, develop the muscles in the remaining limbs and trunk, and assist the healing of the stump.

3. Exercises should be specially directed towards the prevention or removal of contractures, the improving of muscle tone, and the promotion of power and ability to balance, and to walk correctly.

4. As soon as the wound is soundly healed, properly applied elastic bandages should be used for the stump, to prevent œdema, and the patient encouraged to move it in a vertical position and to practise balancing movements out of bed. At the same time, a temporary prosthesis should be provided.

5. Careful education in walking with the use of the temporary prosthesis should be continued, under expert supervision, and the patient retained in the hospital or rehabilitation centre (if beds are available) until he has acquired a correct gait, and learned to take proper care of his stump and of the prosthesis.

6. Double amputees of the lower limb should first be taught to balance themselves and walk on short prostheses ; then on those of medium length ; and finally (after about six months) on permanent prostheses, of a length that would restore the patient's normal height. With such prostheses, the double leg-amputee first needs arm crutches, then elbow crutches, but should finally be able to walk with two sticks, or in successful cases with only one.

7. Games and competitions are of great help in restoring patients' morale and encouraging activity.

Miss Wilksman's address was followed by an excellent demonstration of exercises for amputees by Miss EILA JARVIO, who showed the type of exercise and other remedial measures (bandaging, balancing movements, games, etc.) on the following cases :

1. A man with a single below-the-knee amputation, demonstrating early treatment and exercises in bed.

2. A woman with two short below-hip amputations, demonstrating exercises for the whole body, balancing exercises, and education in walking.

3. Two young men with single lower-limb amputations, demonstrating gymnastic exercises, sports and games.

4. A male double amputee (lower limb), demonstrating walking with the aid of elbow crutches, going up and down stairs, etc.

The Organization, Financing and Control of Prosthetic Centres and Their Association with Limb-fitting Surgeons

Lecturer : Mr. KURT JANSSON, Director of Rehabilitation, World Veterans' Federation.

Mr. JANSSON explained that the purpose of the prosthetic centres is to provide the most adequate prostheses at the cheapest possible price. By "most adequate" he understood those which are individually selected to fit the physical, social and vocational needs of the amputee. He stressed the importance of taking into account the psychological factors involved. The success of the prosthetic centre depends on the integration of the services of the following specialists working as a team :

(1) The orthopædic surgeon or the doctor with experience in physical medicine who has to decide on the shape and length of the stump ;

(2) The physiotherapist or remedial gymnast who has to prepare the patient to enable him to stand the strain of the artificial limb or prosthesis ;

(3) The limb-fitter who has to work under the close supervision of the surgeon ;

(4) The limb-maker who has to provide the limb as prescribed by the surgeon ; and

(5) The instructor in the use of prostheses.

Mr. Jansson went on to explain the organization of limb-fitting services in different countries. He stated that it was not necessary to have this limb-fitting centre on the premises of a hospital, but it was most important that it should work in close co-operation with the orthopædic hospital. He pointed out the danger of having a number of small workshops working on a purely commercial basis. He strongly advocated the exercising of an official central control over the making, fitting and distribution of artificial limbs. In several States, the making of artificial limbs required a licence, but there were still many countries where anybody may make and sell them.

To ensure that the disabled make proper use of the prostheses, a follow-up on their return home was most necessary. Mr. Jansson mentioned that 50 per cent of those supplied with artificial arms are discarding them soon afterwards.

In the discussion which followed, Dr. Balme stated that the United Nations and the World Health Organization were attributing great importance to this problem. He mentioned that a conference on this topic was being planned by the World Veterans' Federation and the International Society for the Welfare of Cripples. The problem would be discussed from the following points of view :

1. *Surgical :*

(*a*) The preparation of amputation stumps in relation to the vocational need of the disabled, rather than to the appearance of the prosthesis ;

(*b*) The best methods of providing amputees with temporary prostheses as soon as possible after amputation, so that they should not form a habit of doing without artificial limbs ;

(*c*) The supervision, by the limb-fitting surgeon, not only of the first prescription of a prosthesis, but also of all changes required from time to time in its use.

2. *Technical :*

(*a*) The control of the manufacture and distribution of prostheses, and the distribution of suitable materials to countries not already possessing them ;

(*b*) The pooling of information and discovery as to the best forms of artificial limb invented by designers ;

(*c*) The association of prosthetic workshops with limb-fitting centres under expert surgical supervision.

3. *Training :*

(*a*) The training of nurses, physiotherapists and remedial gymnasts in the preparation of amputation-stumps and the education of amputees in the right use of prostheses ;

(*b*) The training of prosthetic technicians.

A demonstration on **Limb-fitting and Prostheses** was also given in Stockholm by Dr. STIG JONSATER, Orthopædic Surgeon to the Norrbacka Institute for Cripples, who stated that there were not many artificial arms used in Sweden as the patients seemed to prefer the single hook.

Some cases were given a movable hand imported from England or America. Relatively few patients had either the intelligence or the patience to learn to use a complicated hand. Old patients were given a pylon, made from the wood of willow and lime trees, prior to being given an artificial limb. Children were always given wooden legs on account of their continued growth. He stated that stumps shrink for one year after operation and patients are always given a temporary prosthesis to begin with.

He then demonstrated how old people were taught to walk with their new limbs by means of a four-pinned crutch. An old lady of 68 demonstrated how she could walk with these crutches two days after being given her artificial limb.

Technical Aids for the Disabled

Lecturer : Mr. KARL MONTAN, Secretary of the Swedish Committee for the Care of Cripples.

Mr. MONTAN opened his lecture by referring to the various disabilities suffered by the physically handicapped and the assistance which could be afforded through technical aids—e.g., wireless sets and writing facilities for the blind, hearing-aids for the deaf, and aids for daily living and for easier transport in the case of the severely crippled. He described the work of the Technical Committee which had been set up by the Swedish Committee for the Welfare of Cripples, on which medical and technical experts and the disabled themselves were all represented, and which was dealing through sub-committees with such important subjects as house-building problems, household furniture and utensils, work machines, tools, and means of communication. The Institute of Home Research was assisting in the devising of suitable kitchen utensils, whilst the Sub-Committee dealing with communications was investigating the problem of wheel-chairs, adaptable motor-cars, and public traffic facilities.

The Committee had engaged an engineer to work out problems in the construction of technical aids of various types and in relating these aids to particular types of physical disability.

Mr. Montan stressed the importance of international co-operation in this field, with a view to sharing the benefits derived from successful experiment and invention in any country.

He then demonstrated a sling apparatus which automatically moves a patient from chair to bed and *vice versa*. He stated that two patients were using this apparatus in Sweden at the moment. The apparatus can be controlled by the patient and costs 1,800 crowns. Various forms of invalid chairs costing approximately 300 crowns were also demonstrated. Examples of other aids were :

(1) Prism glasses which allowed the patient to read while recumbent ;

(2) Long forceps with a magnet attached to allow needles, pins, etc., to be picked up from the floor ;

(3) A walking-stick with an attachment for picking up articles ;

(4) Spoons to allow patients who had no elbow flexion to eat ; and

(5) An automatic page-turning apparatus.

Many of these gadgets had been sent from the Slough Industrial Health Service in England and the British Red Cross.

A statement was then read by the Swedish Association for the Hard-of-Hearing. The new electric apparatus was demonstrated. The advantages were that the apparatus could be selected for (*a*) high tones, (*b*) low tones, (*c*) it was small, and (*d*) easy to wear. This Association had organized two centres in Sweden where the deaf could try out their hearing-aids prior to selection of the appropriate apparatus. Electric aids were stated to be expensive (190 to 550 crowns) and batteries did not have a long life. The Government gave the Association 100,000 crowns towards obtaining this apparatus. The statement stressed the importance of the "deliverance of the deaf from silence and isolation".

CHAPTER XIII

PROTECTIVE LEGISLATION AND SOCIAL SECURITY SCHEMES

The literature previously circulated amongst members of the Course contained important information regarding the various forms of statutory legislation, insurance schemes, social security measures and pensions affecting disabled persons in Sweden, Finland and Denmark respectively. This information not only gave details regarding the various laws existing in these countries for the protection and assistance of the handicapped classes, but also included particulars concerning invalidity benefits, accident insurance compensation, old-age and disability allowances and pensions, the provision of prostheses or other mechanical aids, and other forms of social security.

During the visit to Sweden, a lecture on **Legislation and Social Security Schemes for the Disabled** was given by Mr. K. PERSSON, LL.B., Director-General of the Royal Pensions Board. Mr. Persson stated that any social security scheme must be related to the production of the country concerned for economic reasons. The size of the scheme was conditioned by the income of the nation concerned—the higher the production the more money there was available for a scheme.

In his opinion, there were two methods of helping disabled persons : (1) an invalid pension scheme ; and (2) a continuous sickness benefit scheme.

Of these two he preferred the former. He divided the assessment of a pension into two main methods :

(1) Assessment on a purely anatomical basis ;

(2) Assessment on a work capacity basis.

In Sweden he preferred the latter method. He stated that pensions were not given until there had been a full assessment of the patient's work capacity and he had had a full course of rehabilitation. He said that there was no quota system in Sweden and that there was full employment. The Pensions Board tried to ensure that the patient was completely rehabilitated and that there was full functional and clinical finality reached before a pension was given. During this time the patient was helped financially by public assistance.

A full discussion by the participants followed the lecture. Various delegates described national pension schemes, some preferring the first method of assessing a pension—i.e., the anatomical method, which was normally used in all accident insurance schemes.

Another interesting example of Government assistance for the disabled in Sweden was contained in a lecture on **The Work of the Labour Market Board,** which was delivered by Mr. A. BERGH, Head of the Resettlement and Aliens Division of the Board.

He gave a full description of the organization of the Labour Market Board, which was an independent Government agency responsible to the Ministry of Social Affairs. The resettlement of disabled persons was the responsibility of the employment exchanges of the Labour Market Board, organized as part of the County Council organization. At each employment exchange a Disablement Resettlement Officer was established, but unfortunately there was a shortage of these trained personnel. There were a number of vocational training and sheltered workshops organized by the Labour Market Board and medically controlled by the Head Provincial Medical Officer. Mr. Bergh stated that the resettlement organization could be expanded with the help and co-operation of the medical profession.

There was a full discussion on the problems of resettlement in industry. Mr. Bergh stressed the two following principles :

(1) From an employment point of view, there was no difference between the placing of the able-bodied and the disabled in employment. This was no problem in Sweden as there was full employment, but it was a difficult problem for countries which had large numbers of unemployed.

(2) The Labour Market Board was responsible for the industrial rehabilitation and vocational training of the disabled. He stated that there was close co-operation between the Labour Market Board and the public assistance organization.

Other activities of the Labour Market Board were the placement of unemployed, the management of employment exchanges, the administration of the problems of civilian national service and the preparation of manpower budgets. In 1951 there was close co-operation by means of a Committee between the Royal Labour Board and the Royal Pensions Board.

The cost of resettlement was divided between the State budget and that of the County Council.

Mr. Bergh stated that 25 per cent of family allowances was paid by the State. He further stated that 10,000 cases of disabled persons were resettled in 1951, also that 95 per cent of trainees placed in employment repaid in taxes the cost of their training in two years. This he cited as an example that good resettlement and vocational training pays.

In Finland, a visit was paid to the National Pensions Institution, which provides old-age and invalidity pensions for no less than 2,200,000 of the population.

The extensive work of this organization was described by Mr. TAUNO JYLHA, Assistant Director, and Dr. EERO PONTEVA, Chief Medical Officer, who supplied details of the two Acts upon which the Pensions system is built up, the distinction between the contributory and non-contributory old-age pensions, the conditions on which grants are made, and the methods by which the whole scheme is financed.

In speaking of the system of Invalidity Pensions, Dr. Ponteva showed a very interesting chart which is shortly to be published and which is based on a survey of pensions applied for during the past ten years. This record demonstrates, in the case of each major group of disability :

(*a*) The number of people to whom such pensions had been granted during the past ten years and who were still receiving them ;

(*b*) The number who had died during the period ;

(*c*) The number who had recovered sufficiently, through the provision of appropriate medical treatment, rehabilitation and training, to be no longer in need of pensions ;

(*d*) The number whose applications had been refused on the ground that there was no evidence that they fulfilled the conditions on which alone invalidity pensions are granted—namely, total and permanent incapacity for work.

From these diagrams and from the supplementary information which was supplied, it was clear that the Finnish system places the chief emphasis on work-potentiality, and that pensions are only granted when an invalid or disabled person is clearly incapable of being fitted for work. Invalids incapable of work for a full year are regarded as being eligible for pensions, but, should any serious complication occur before the end of that period which is not likely to improve, the pension is granted without further delay.

The chief cause of disability in Finland qualifying for invalidity pensions is tuberculosis, followed by diseases of the heart and circulation, and diseases of the bones and joints (mainly chronic arthritis). Applicants for pensions for patients suffering from neurosis are not considered until after a lapse of two years.

These lectures were followed by a conducted tour of the whole Pensions Institution, in which a very efficient system of recording is carried out on the entire insured population by means of the most modern card-punching machines and filing. All records are kept in the central institution, and all payments made from there.

CHAPTER XIV

THE APPLICATION OF REHABILITATION PRINCIPLES AND TECHNIQUE TO SPECIFIC DISABILITIES

Although the generally accepted principles of rehabilitation technique, vocational training, selective employment and follow-up may be said to apply to all forms of disabling disease or injury, there are special problems connected with certain types of disability which call for special consideration and a specially devised programme. These facts were emphasized in the lectures and demonstrations which were given at the institutions visited. A summary of the more important of such disability programmes is as follows :

A. ACCIDENTS AND ORTHOPÆDIC DISABILITIES

A lecture on **The Early Rehabilitation of Accident Cases** was delivered at the South Hospital, Stockholm, by Dr. I. PALMER, who commenced by emphasizing the importance of Böhler's principles for the treatment of fractures—namely, (1) reduction, (2) retention, and (3) treatment of function.

The importance of avoiding the atrophy of disuse was the corner-stone of this problem. He stressed that limbs were not moved on account of pain, but muscles could be kept in good condition by contraction of the muscle group for a few minutes every hour all through the day. This contraction could be maintained even though the patient was fixed in a plaster cast or had some form of internal fixation. Dr. Palmer stated that the brain impulses are essential to the vitality of the tissues. He stressed the importance of impressing on the patient that he must cure himself and that muscle power was the key to success. Mobility of joints was of no avail if there was not sufficient muscle power to control the joints. He then listed the various remedial procedures for the production of adequate muscle power :

(1) Static exercises ;
(2) Resisted exercises ;
(3) Free movement and games ;
(4) Occupational therapy ;
(5) Return to work, or work therapy.

He stated that the Accident Insurance Companies made the following estimates of the duration of various disabilities :

(1) Fractures of both bones of the forearm—three months ;
(2) Fracture of both bones of the leg — six months ;
(3) Fracture of the thigh bone—twelve months.

Dr. Palmer stressed that these times could be greatly reduced by good and intensive rehabilitation. He then showed various cases to illustrate the points of his lecture. This lecture was a simple concise and comprehensive review of the principles of early rehabilitation. The cases demonstrated showed that these principles were carried out in the South Hospital, an example being a case of meniscectomy which was back at work in twenty days.

Orthopædic disabilities and their treatment and after-care formed the subject of several lectures and demonstrations, including lectures by Professor STEN FRIBERG, of Stockholm, on **The Problem of Low-back and Sciatic Pain ;** by Dr. ARNE BERTELSEN, of Copenhagen, on **The Rehabilitation of Orthopædic and Vascular Disabilities ;** by Dr. KNUD JANSEN, of Copenhagen, on **Orthopædic Treatment in Cases of Poliomyelitis ;** by Dr. JOHN MORTENS, of Copenhagen, on **The Orthopædic Treatment of Spastic Children ;** by Dr. HANS THOMSEN, of Juelsminde, on **The Treatment of Surgical Tuberculosis of Bones and Joints ;** and an interesting demonstration by Dr. MATTI SULAMAA, of Helsinki, on **The Treatment of Club-foot in Infants.**

Speaking of **Low-back and Sciatic Pain,** Professor FRIBERG gave a history of the various theories which had been held by neurologists and surgeons in various countries. He also spoke of the instability of the intervertebral joint between the fourth and fifth lumbar vertebræ, and the presence of disc degeneration, which had been found in a long series of investigations, and had been confirmed by a new procedure known as "discography", carried out with the aid of a contrast medium.

Professor Friberg then showed a series of special slides of X-ray plates to demonstrate his point. Discographic findings have confirmed the results of anatomic investigation. Disc degeneration is common in the lumbar region and may have reached an advanced stage even when ordinary X-ray and myelography are negative. In addition, degeneration appears to be much more common in younger persons than was previously believed. In some cases, discography reveals a prolapse when myelography was negative and may even disclose the space from which the low-back pain originates.

He described a method, using novocaine, whereby the sensitivity of the posterior ligament could be demonstrated. He then described his endeavours to

find a satisfactory seat for bus-drivers and his investigation of low-back pain among miners, draymen, cranesmen and clerks.

He came to the following conclusions :

"Low-back pain and sciatica are to a great extent attributable to degenerative agencies in and around the lower lumbar discs. Locally, the disc degeneration is the primary process which explains and ties together the clinical symptoms. Disc degeneration is very common, often appearing at an early age, but is not detected clinically until it has reached an advanced stage. It is later followed by arthritis deformans in the intervertebral joints and it is not often complicated by disc prolapse. The latter indicates the existence of old and pronounced degenerative changes in the disc.

"This whole problem is one of arthritis deformans, which during the past fifteen years has been limited to the disc and its immediate surroundings. From a scientific point of view, we are now in the waist of the hour-glass and are compelled to try to elucidate the disturbances in biochemistry, in metabolism, in hormonal status, that cause the decrease in elasticity, the later stages of which are manifested by structural changes, ruptures and instability. At this point, the hour-glass is beginning to widen again ; we are faced with a series of intricate, long-range problems."

In his lecture on **The Rehabilitation of Orthopædic and Vascular Disabilities,** Dr. BERTELSEN paid tribute to the Knudsen-Guildal tradition which had formed the guiding principles of the work of the Orthopædic Hospital in Copenhagen, and may well claim to be the forerunner of all that is included in what is now usually spoken of as modern rehabilitation. The co-operation between surgery and the education of the disabled ; the emphasis placed on the restoration of functional capacity ; the relation of operative technique and physio-therapeutic aftercare to the social and vocational prospects and future of the patient ; and the close co-operation of specialist members of a united team—all these points, so often mentioned as ideals to be striven after, were clearly and effectively demonstrated.

Dr. Bertelsen dealt in detail with the methods employed at the hospital in the rehabilitation of amputees, the reconstruction of the hand after crippling deformities, the treatment of scoliosis, the new method of diagnosing conditions of hypertrophy of bone in young people caused by over-vascularization from abnormal arterio-venous communication, and the principles of treatment followed in cases of degenerative diseases of the joints, such as osteo-arthritis of the hip. This lecture was illustrated by a film on the treatment of amputees, and by a demonstration of various orthopædic cases.

Dealing with the **Orthopædic Treatment in Cases of Poliomyelitis,** Dr. KNUD JANSEN stressed the point that orthopædic treatment must begin directly the diagnosis of poliomyelitis had been made and must be continued until the patient had reached maximum functional capacity ; that successful treatment could be effected only by perfectly co-ordinated team-work and the use of a variety of medical, surgical, physiotherapeutic and psychological measures ; and that it must lead on to the best possible readjustment of the patient in the social and vocational life of the community in which he will live.

After referring to the main principles of treatment in the primary acute stage, in the stage of neuromuscular recovery, and in the stage of readaptation, Dr. Jansen described the work of the orthopædic surgeon as being chiefly concerned with the prevention or correction of contractures during the first and second stages of the disease, and the restitution of functional capacity, to the fullest possible extent, in the later stage, by such operative measures as tenotomy, muscle transplantation, or arthrodesis, and the use of suitably applied braces and supports. He dealt in detail with the difficult problem of scoliosis, demonstrating cases in which various forms of treatment (spinal fusion, the MILWAUKEE brace, etc.) had been successfully employed. He also drew special attention to the use of the new brace designed by Dr. CANTY (of the U.S. Navy) for cases of paresis of the lower limb requiring a weight-bearing support, and the light spring brace which can be worn inside a shoe to counteract dropfoot. Demonstrations of X-ray films of scoliosis before and after treatment were also shown.

The Orthopædic Treatment of Spastic Children was described by Dr. JOHN MORTENS, who explained in detail the use of physical methods, exercises, orthopædic surgery (mainly arthrodesis and tenotomy, and confined to cases between late childhood and adolescence), and the occasional use of splints or braces to avoid contractures. He demonstrated the results of treatment in eight different cases of varying severity, first showing a film of each patient taken four or five months ago, and then showing what each is able to do to-day, whilst Miss LUNNING, the chief physiotherapist, demonstrated some of the important physiotherapeutic exercises used in the treatment of these children.

A visit to the Seaside Hospital, Juelsminde, gave members of the Course an opportunity of seeing the results of the modern treatment of **surgical tuberculosis of adults and children.** This hospital, which belongs to the National Association for the Fight against Tuberculosis in Denmark, was established in 1902 with the prime object of treating children, but during the passage of years the number of adults had increased and the number of children had decreased. There are 30–40 children and 90–100 adults under treatment at the moment. The greater number of the cases are tuberculosis of the bones, joints and kidneys. The problem of the cervical lymphatic glands has completely disappeared, now that bovine tuberculosis has been almost eradicated from Denmark.

Following a preliminary talk by Dr. HANS THOMSEN, the Medical Director, members of the Course were

showm a film of the results of surgical treatment of tuberculosis of the spine. This film was an extremely good objective demonstration of the efficiency of modern surgical treatment, the operation being performed under a streptomycin umbrella. A survey of 439 persons showed that only 9 per cent had to change their occupation as a result of the disease. 75 per cent were doing their original or similar work five years after treatment. In all cases, the number of years during which an invalidity pension was paid ranged from 4.6 to 5.2. The following table, giving the results of the survey carried out on 439 persons, was shown :

Disease	*Pension paid*	*No pension paid*
Non-tuberculous disease	10	37
Tuberculosis of the spine	102	35
Tuberculosis of the organs	79	50
Tuberculosis of arms, legs	80	46
	271	168

This hospital was an example of the fact that, if good definitive medical treatment and rehabilitation are available at the hospital, the problem of resettlement becomes minimal (only 9 per cent of patients).

B. TUBERCULOSIS

Although surgical tuberculosis has considerably declined in recent years in the Scandinavian countries, as a result of improved methods of immunization, purer milk supplies, early diagnosis and efficient methods of treatment, pulmonary tuberculosis continues to form a major problem in the field of rehabilitation. A variety of causes add to the difficulty —housing shortage, overcrowding, inadequacy of period under supervision in sanatorium, return to unsuitable work, lack of effective follow-up and control, etc. All these, and many other valuable points, were brought out and emphasized by Dr. E. Larmola, Chief Physician of the sanatorium of Kiljava, Finland, which was visited and inspected by members of the course. The title of Dr. Larmola's lecture was **The Fight against Tuberculosis in Finland,** and the following is a summary :

After mentioning that the first sanatorium (a private institution) had been erected in 1903, and the National Association against Tuberculosis formed in 1907, he described the important law which had been passed by the State in 1928, under which 75 per cent of the cost of building sanatoria was offered to communities which would co-operate in establishing such institutions. As a result of this generous offer, fifteen large sanatoria had been erected in different parts of the country, with accommodation for 6,500 patients.

From the year 1909 onwards, the National Association had taken the lead in organizing tuberculosis dispensaries and work centres, but, since the passing of the Tuberculosis Law, this reponsibility had been taken over by the State, which has now divided the country into eighteen Tuberculosis Districts, each possessing its own central sanatorium and from one to four dispensaries in the chief centres of the district. Each tuberculosis dispensary has its own medical specialist and public health nurse, their work being mainly that of diagnosis and supervision. Ambulatory clinics, with provision for mass radiography, are organized in every commune, and all persons above the age of 15 are compelled by law to attend, all cases which appear suspicious being referred to the tuberculosis dispensary for fuller investigation. Tuberculosis is a notifiable disease in Finland and there are at present nearly 40,000 cases of pulmonary tuberculosis and 10,000 cases of other forms of the disease (mostly pleural or glandular) on the register, 8,000 new cases of pulmonary tuberculosis and 2,000 non-pulmonary cases being added last year.

BCG vaccination was introduced in 1941 and is now carried out on a large scale ; it is estimated that over a million people (mainly under 25) have now been vaccinated.

Sanatorium treatment is carried out on rather more active lines than in the United Kingdom or the United States, with less time for complete immobility. No bad results have followed from this policy, but there are not as many physiotherapists, occupational therapists or social workers as are needed. The average stay in the sanatorium is seven months, but it would be better if this could be prolonged to twelve months, to allow a longer period for work-training and testing.

The maintenance costs per patient at Kiljava Sanatorium average from 600 to 700 Finnish marks per day (about one-third of the cost in the United States), but over 90 per cent is paid by the communities and the State and only about 5 per cent by the patients themselves, more than half of whom are treated free of charge.

After referring to the marked fall in deaths from tuberculosis during the past few years, especially in the cities (only 2,939 deaths from tuberculosis having been reported last years), Dr. Larmola emphasized that, in assessing the cost to a country of this disease, it is the morbidity figures rather than the mortality figures which need to be taken into account. The expectation of life for sufferers from tuberculosis is rising, and the number of new cases notified decreasing ; but wide-spread mass radiography (with BCG vaccination made compulsory for all new-born infants, for children attending school, for young married couples and for all who are brought into contact with sources of infection, and with longer periods of work therapy, vocational training and gradual return to full employment), would be of great advantage to the country in reducing the incidence and degree of the disease and shortening the time lost from production work. A Committee is now studying the problem of establishing better methods of rehabilitation, the opening of small branch sanatoria and workshops for patients undergoing work-training (such as exists in connection with the Central Sanatorium in Helsinki), and the provision of suitable employment for those who ought not to return to heavy manual labour.

A large number of questions were addressed to Dr. Larmola at the conclusion of his lecture, which he answered. This discussion elicited the following facts :

1. Fear of infection from contact with tuberculous patients is lessening, as a result of propaganda and education, and there is as a result a better chance for the patient to find work in ordinary industry.

2. In fourteen years' experience in the Sanatorium, only two cases out of the 1,000 members of staff employed during that period had contracted the disease, and one of these two cases had not been in contact with the patients at all.

3. There is no system in Finland by which tuberculous patients are admitted to ordinary vocational training schools.

4. Although there are two sanatoria (with 110 beds) for children with tuberculosis of the bones and joints, there is no such provision for adults, with the result that they have to be admitted to sanatoria for pulmonary tuberculosis. This is quite unsuitable, in Dr. Larmola's opinion, as they should be under the care of an orthopædic specialist, not a chest physician. Dr. Larmola suggested that the large general hospitals should have a ward reserved for adult cases with tuberculosis of bones and joints.

5. Modern surgical treatment is carried out on all suitable cases in the sanatorium, but patients requiring resection of lung are transferred to Helsinki.

6. A regular follow-up system is carried out, after a patient's discharge, by a system of letters to the tuberculosis dispensary of his district and to the local communal board of health and social board.

After visiting the various departments of this sanatorium, a film was shown which had been prepared by the National Association, as a means of educating public opinion on the benefits of early diagnosis and sanatorium treatment, and the type of work suitable for tuberculous patients.

During a visit to Jutland, members also had the opportunity of seeing the Municipal Tuberculosis Dispensary at Aarhus.

The Municipal Tuberculosis Dispensary is an extremely modern building, having been completed in 1950. The area covered by this clinic is that of Aarhus County and Municipality, containing some 200,000 people. Dr. K. BUHL, in his opening address, stressed the fact that, owing to the intensity of the Anti-Tuberculosis Organization in Denmark, the mortality rate for this disease in his area (Aarhus) was 7 per 100,000, which was probably the lowest mortality figure in any country. An interesting comment on the decrease in the amount of tuberculosis in Denmark is the fact that only 65 bacteria-positive cases were discovered by this tuberculosis clinic in the year 1951. Members of the Course were shown the complete control, diagnosis and mass radiography organization carried out at this clinic, which is probably the most modern and efficient example of a chest clinic to be seen in any country. Dr. Buhl stated that the number of positive cases of cancer of the lung was greater last year than those of tuberculosis.

C. BRAIN INJURIES AND NEUROLOGICAL EFFECTS

The whole of one day during the Course was given up to a consideration of the rehabilitation of **Brain Injuries**, which Dr. Balme, in opening, described as one of the most difficult and complex of all rehabilitation problems, owing to the fact that a large percentage of the cases not only suffered from physical disabilities in the form of paralysis, traumatic epilepsy and other neurological disorders, but also had severe and often progressive psychological changes, and serious affections of the centres governing speech, visual and auditory perception.

The programme for the whole day was in the hands of Professor NIILO MAKI, Head of the Psychologico-Pedagogical Department of the Rehabilitation Institute for the Brain-injured (Helsinki-Haga), who, in a preliminary lecture, explained that Finland had a higher percentage of serious brain injuries resulting from the wars of 1939-1945 than any other country whose statistics were known, amounting to no less than 3,500 cases. These patients received any necessary surgical treatment in military hospitals, notably that of the Finnish Red Cross, but their after-care, rehabilitation and re-education were provided in three centres organized by the Disabled Ex-Servicemen's Association and financed by the Ministry of Social Affairs. Of these centres, that at HAGA was used as a screening and clearing station, with accommodation for 29 in-patients and a large out-patient department, and with apparatus and trained staff to carry out an extensive variety of psychological tests and brain exercises ; that at KAUNIALA (the *Valmula Home*) was reserved for those with complete incapacity; whilst the *Suitia Home* at SIUNTIO afforded opportunity for work-training in agriculture, gardening, forestry and various occupations for those able to be trained for regular employment. This third institution also had provision for 20 patients to live with their families.

Dealing with the psychological results of severe brain injury, Professor Maki explained that these tended to increase in process of time unless wisely treated by psychiatric experts and social workers, and that they included a tendency to irritability and lack of control, emotional instability, disturbance of memory, lack of concentration and inability to learn new things or handle new situations. Each individual presented his own reactions, and had to be studied and treated as a separate problem. The study of the patient's whole personality, and the kind of approach which would gain a patient's confidence and co-operation, were essential prerequisites of re-education.

Professor Maki explained in detail the serious "language disturbance" caused by injury to those centres of the brain responsible for speech, for word-perception and for the interpretation of sounds, and of the importance of the indirect approach in training patients with such defects to frame sounds, to recognize words and to re-learn the art of writing. Thus patients who were emotionally resistant to suggestions of speech therapy could first be taught to blow out a lighted match ; those unable to write would manage to spell out their own names from a collection of block letters ; whilst the appreciation of complete words was always facilitated by presenting them with words with which they had formerly been very familiar, such as "brandy" in the case of men or "ladies' hairdresser" for women !

A series of slides and a film gave an excellent demonstration of some of the methods employed in this important and expert task of psychological assessment and re-education.

Professor Maki stated that, of the 3,500 cases of war-disabled with brain injuries, over 500 suffered from "language disturbance" persisting for more than three months (those of less duration, which were very numerous, not being counted, as they recovered naturally), and that of these only 2 per cent had failed to respond to treatment.

The great majority of the cases of brain injury arising from the war had made a sufficient recovery to become able to live independent and self-supporting lives, many of them now occupying posts of serious responsibility. He particularly referred to one case, a former clerk, with serious and prolonged language disturbance, who has shown remarkable ability as a sculptor and is now attending the Arts School in Helsinki as an ordinary student.

The Rehabilitation Institute for the Brain-injured (HELSINKI-HAGA) serves as an assessment and clearing-house for all the war disabled with brain injuries. It is the only institute of its kind in the country ; therefore the control of these cases is administered from one central point. The institute comprises :

(1) An out-patient department ;
(2) Treatment wards (29 beds) for in-patients ;
(3) A psychologic-pedagogical department ;
(4) A follow-up department for social workers.

The disposal of the patients from this institute is as follows :

(1) Those who are so severely disabled as to need sheltered home conditions under strict medical supervision go to the Valmula Home for the Disabled ;
(2) Those who need medical rehabilitation, vocational training and work go to the Suitia Home for the Disabled ;
(3) Patients who can find work in open industry are sent back to their jobs ;
(4) Patients who need neuro-surgical treatment are transferred to the Finnish Red Cross Hospital.

The Treatment of Post-Concussion Disabilities formed the subject of a special lecture by Dr. BORIS SILFVERSKIOLD, Associate Professor at the Neurological Clinic of the Serafimer Hospital, Stockholm. A preliminary address was given by Dr. E. MINDUS, on the psychiatric aspect of such disabilities, stressing the point that the personality of the patient affected by the injury was more important than the injury itself. He demonstrated a case of such injury in a man of 36, who in addition to concussion and temporary hemiparesis had been quite unable to keep still, unable to adjust himself to a new situation and showed marked changes of character and speech. He was now recovering as a result of psychiatric treatment.

Dr. Silfverskiold gave the following as the major symptoms of the post-concussion syndrome :

(*a*) Headache—of which about 50 per cent complain ;
(*b*) Postural headache—which affects approximately 10 per cent ;
(*c*) Nervousness, dizziness and inability to concentrate.

The presence of a previous tendency to neurosis, or the possibility of financial compensation resulting from the injury, tended to exaggerate the symptoms.

In the past, patients had been treated by being kept in bed for many months, and he stated that the symptoms, instead of diminishing, appeared in some cases to increase in severity. Patients were now treated by a régime of accelerated convalescence, with the physicians minimizing the damage and producing an atmosphere of confidence, thus allaying anxiety. The régime consisted of :

(1) Graded physical exercises,
(2) Special head and trunk exercises, such as head-turning, stooping and trunk movements,
(3) Careful psychological handling,
(4) Adjustment of the social problems.

He stressed the fact that physiotherapists should be experienced in this work, as the slow progress and complaints of the patient might easily discourage them. He then went on to discuss the treatment of headache. He divided chronic headache into :

(1) Migraine—19 per cent and
(2) Nervous headache—81 per cent.

Both these types he considered were precipitated by a stress reaction. He then discussed the problems of tension states, and mentioned that simple procedures such as change of environment and relaxation exercises could influence the chronic headache, which was similar to the post-concussion headache. He also stressed the importance of group treatment with a regular and graded régime.

Dr. Silfverskiold stated that he had analysed a follow-up of 110 patients for one year and said that

two-thirds had fully recovered and were at work. He did not claim that this régime was the complete answer to the problem. He thought the results were sufficiently good for further research work to be carried out.

He again stressed the importance of the basic personality of the patient and reiterated that the type of personality affected by the disease was more important than the disease itself.

A demonstration of exercises for patients suffering from post-concussion syndrome was then given by the chief physiotherapist, who supplied the following notes in response to a request from several members of the Course :

"It is of importance in the after-care of patients with post-concussion syndromes to proceed in such a manner that the physiotherapist gains the confidence of the patient, who should be made to feel that here is someone able and willing to help him. The remedial gymnast must be in continuous contact with the physician in order to untangle eventual problems together with the latter.

"It is of importance to develop a positive attitude to the treatment on the side of the patient. He should be made to understand that the successful outcome of the treatment is essentially dependent on himself. He must overcome his disinclination and disability for bodily movements—he must be persuaded to stand physical as well as mental strain. In consequence, the physiotherapist has to work on two parallel lines, in part with physical and in part with mental training.

"Particularly in the case of patients with brain concussion, it has by experience been found that it is of inherent importance to rouse and stimulate the activities of the patient. The object of the treatment is explained—namely, building up the general condition through a cautious and systematic training. The patient must be inured to the discomfort : headache, malaise, sleeplessness, apathy, vertigo, disturbance of balance, depression and so forth. He must be trained so that the symptoms disappear. By means of the physical training, the patient will gradually be able to fulfil the demands of normal life and work. The physiotherapist must explain that the initial treatments are very easy and light, but that at every treatment one or two new exercises will be introduced, so that after about ten treatments the schedule of movements will be quite extensive. This gradual increase is necessary in order to obtain a concept of the patient's ability to resist strain.

"The method is based on individual treatment. Consideration must be given to the personal disposition of the patient and to his present condition. Therefore, the medical gymnast cannot work to a fixed schedule but should accommodate the programme to the condition of the individual patient.

"The physical training consists of movement treatments, initiated with :

A. Relaxation and deep breathing exercises.

B. Movements of the head and changes of position.

C. Strengthening exercises.

D. Training of accuracy and rapid movements ; Equilibrium exercises.

E. Training of movements with consideration to occupation and to the requirements of daily life.

"A 1. The relaxation exercises are initiated with the patient prone, if he is able to take this position without discomfort. He is instructed to relax his head and extremities.

"A 2. These relaxation and breathing exercises are later carried out standing and in association with rhythmic movements, eventually to music. In the event of giddiness, the patient is advised to take some deep breaths.

"B 1. Concerning the head movements, it is of importance to teach the patient to move his head and to overcome his fear of pain and vertigo. The movements are practised calmly and under control—not jerkily. In the terminal position the patient is to relax as much as possible.

"B 2. The patient is trained in changing between different positions —that is, standing, sitting, lying on his side, on his back, or on his stomach. Rising from the prone position, squatting down, and arising are beneficial and useful exercises.

"C. The general exercises are intended to strengthen the muscles of back, trunk, shoulders and extremities.

"D. As concussion patients commonly are unconcentrated and insecure, equilibrium exercises are included in the programme.

"1. The equilibrium exercises consist of various steps and movements on the floor, including dance steps. Assurance, speed and self-control are practised hereby. These movements may to advantage be practised in front of a mirror.

"2. By means of ball practice precision, speed and distance determination are attained, at the same time acting as stimulation, relaxation and entertainment to most of the patients, who forget themselves.

"E 1. The physiotherapist must be familiar with the patient's profession, with all that this may involve, including the position at which the work is performed. These positions should be imitated to the greatest possible extent.

"E 2. Concerning the demands of daily life, practical exercises and movements necessary in the home are practised by men and women alike. It gives them pleasure and satisfaction to be of use and to be able to manage by themselves without being dependent on others.

"It is of importance to pay attention to weak points and to train those movements that are most difficult for the patient, and that evoke the greatest discomfort. In the case of nervous and tense patients, particular stress should be laid on relaxation exercises, inasmuch as, if these patients are able to learn to

relax their muscles, the entire nervous system will be benefited, and the patients attain that relaxation of which they are in great need.

"Already at the initial visit the patients are advised to stretch and limber up the first thing in the morning on waking—this with the object of preventing them from beginning to think of their symptoms immediately on waking.

"The patients must be made to understand how important it is for them to practise at home with the programme taught by the physiotherapist. For the purpose of rapidly obtaining results, they may be given home lessons in trying various basic positions, hereby noting their reactions and informing the physiotherapist of their observations. The languid and inactive patients must be supervised strictly and should be given a written programme of exercises to be performed daily.

"Before the patients terminate the gymnastics and are discharged cured, one must stress the importance of their keeping in good physical condition in order to avoid relapses. Activity in the line of gymnastics or sports should be recommended."

Traumatic Spinal Paraplegia

One of the most spectacular advances of rehabilitation technique during recent years has been the treatment and after-care of patients paralysed from the waist down as the result of severe injuries to the spinal cord. Before the Second World War, such patients were doomed to a life of immobility on plaster beds, until the constant absorption of toxic products from extensive trophic sores and an infected urinary system put an end to their misery. The application of new surgical and nursing methods, combined with the intensive use of remedial exercise, psychological reassurance and expert occupational therapy, has entirely changed the prospects of such patients, with the result that, in a modern Spinal Unit, such cases quickly become able to leave their beds, with the aid of special supports and wheel-chairs, and approximately 70 per cent are enabled to live independent lives and engage in regular employment.

As the Group-training Course did not afford an opportunity of seeing a modern Spinal Unit for Paraplegics in operation, a film entitled "A New Beginning", recently produced at the Institute of Physical Medicine and Rehabilitation, New York, of which Dr. Howard Rusk is Director, and which shows in detail the rehabilitation and training of a paraplegic coal miner, was exhibited to the participants at one of the sessions devoted to film demonstrations on rehabilitation technique.

D. POLIOMYELITIS

The fact that Denmark is now suffering from the most severe epidemic of poliomyelitis in its history gave special significance to the session of the course which was held at the Research and Treatment Institute of the National Association for Infantile Paralysis, and which afforded an opportunity of inspecting the electro-therapy and electromyography department, the remedial gymnasium, the heated and specially purified swimming-pool, and Hubbard Tank.

Describing the present epidemic, Dr. JANSEN, in a lecture on the **Orthopædic Disabilities of Poliomyelitis,** stated that the new programme of treatment is accepted by all medical and social groups, and will be directed by the staff of the orthopædic clinics, under the leadership of Dr. SVEND CLEMMESEN, head of the Institute. This programme includes :

1. *Control :* All the polio-patients are listed in a central file. The cards permit a supervision of all stages of the treatment and time for rechecking of the individual cases.

2. *Clinical follow-ups* of all polio cases, and not least the cases primarily considered without disability.

3. *Physical-medical treatment* in a modern coastal hotel, which is being changed into a high-class polio-clinic with gymnasium, swimming-pools, myotensors and education facilities.

4. *Orthopædic surgery* at the optimal stage, in the orthopædic clinics.

5. *Occupational training*, if needed, in the school or in the training workshops.

6. The last important link in the chain is the community's acceptance of the inevitable number of physically more or less handicapped citizens. This problem is a question of employment and of the public's attitude to disability.

Dr. CLEMMESEN, in a lecture delivered at the Institute, explained that the Association for Infantile Paralysis is a private, autonomous institution, established in 1945 after the severe epidemic of 1944, the aims of which are :

(*a*) The support of research in connection with the health authorities and the State Serum Institute :

(*b*) Aid to patients and convalescents, in whatever form appears most suitable :

(*c*) Support to inter-Scandinavian and international co-operation, for the extermination of infantile paralysis.

The Research and Treatment Institute provides skilled care for 100 out-patients daily.

Speaking of the present epidemic, Dr. Clemmesen explained that the first problem was that of providing sufficient beds, so that the necessary steps could be taken during the first three weeks after onset to prevent the contractures which would otherwise result from the meningeal irritation characteristic of this stage. This was accomplished by means of hot packs, correct position, and the avoidance of any possible cause of reflex spasm produced by the overstretching of muscles ; and the patient must be under the constant supervision of specially trained physiotherapists and nurses.

At the conclusion of the three-week period of meningeal irritation, very careful attention must be given to the decision as to whether or not patients should be allowed up. All cases showing paralysis or weakness of the abdominal muscles, the spinal extensors and the glutei, must be prohibited from weight-bearing and kept under continued supervision for three or more months, whilst many cases would need out-patient physiotherapeutic treatment for years.

Dr. Clemmesen then went on to describe the various scientific methods on which subsequent treatment must be based—radiography by special technique, evaluation of muscle groups, electromyography, etc., and the indications for the construction of braces and for operative procedures.

A film, which had been widely used as a means of instructing doctors, nurses, physiotherapists and patients themselves, was then shown, demonstrating clearly the various stages in the therapeutic treatment and training of a severe case of paraplegia who was successfully taught to walk and live an independent life after three years' previous confinement to a wheeled chair.

Dr. Clemmesen concluded his lecture by referring to the private character of the Institute, and the efforts employed by all members of the staff to create a happy social atmosphere for the patients.

A second lecture, based upon original research work, was delivered by Dr. TH. ROSENDAL, Chief Physician to the X-Ray Department of the Sundby Hospital, on **The Development of the Calcaneus Foot after Polio.**

This research has been based upon a very careful and thorough investigation of 160 cases of paralysis of the Gastrocnemius and Soleus muscles after poliomyelitis—the age of each patient, clinical and radiological history, degree of paralysis of all affected muscles, the presence or absence of contraction of the plantar fascia, the shape and position of the calcaneus bone, and the exact position of the foot, being recorded in each case. This investigation has shown that change in the shape or position of the calcaneus occurs only in children whose leg muscles are paralysed before the age of 12, and is more severe in cases of early paralysis, long duration and lack of appropriate physical therapy ; that paralysis of the triceps is the cause of atrophy of the calcanean tuberosity, and predisposes to a change in position of that bone ; that three different types of calcaneus foot can be distinguished, according to the particular leg muscles completely or slightly paralysed ; and that contracture of the plantar fascia fixes the deformity, whilst contracture in the posterior tibials and peroneals respectively produce a varus or valgus position.

Dr. Rosendal's lecture was illustrated by films and diagrams and was of special interest to the orthopædic surgeons and physiotherapists present.

E. CEREBRAL PALSY

Lectures on the subject of **Cerebral Palsy**, followed by an excellent demonstration of eight different cases and a visit to the Cerebral Unit Kindergarten at the Orthopædic Hospital of the Society and Home for the Crippled, Copenhagen, were given by Dr. SV. BRANDT and Dr. JOHN MORTENS.

In his opening remarks, Dr. BRANDT explained that units for diagnostic screening and treatment of cerebral palsied children had been built up during the preceding year in Denmark, with a clinic held each week, and a diagnostic team consisting of a neurologist pædiatrician, a specialist in physical medicine, an orthopædic surgeon and a co-ordinating social worker. Physical exercises, training in daily activities and speech-training are given by the appropriate technical experts. The programme now carried out is as follows :

1. Physical home-training practised by the parents, after instruction. Supervision by the physical therapists and the occupational therapists of the team at regular intervals.
2. Out-patient training at the Orthopædic Hospital, Department for Physical Therapy, Cerebral Palsy Unit.
3. Temporary in-patient treatment in the Orthopædic Hospital for surgical corrections.
4. Daily treatment and education in the Cerebral Palsy Kindergarten at the Orthopædic Hospital.
5. Admission for long-temporary care, education and training at the Cerebral Palsy Home and Residential School in Søllerød.
6. Admission to the public school or one of the classes for vocational training, depending on age, at the Society and Home for Crippled, Toldbodvej, Copenhagen (partly residential, partly non-residential).
7. Permanent admission to certain homes with school education for severely handicapped, non-trainable, but educable children.
8. Reference to *public care for mental defectives*, or such cases considered as non-educable, either primarily or after a period of trial in one of the above mentioned institutions.
9. Rejection of mild cases as needing no special training.

Lecturing on the problem of cerebral palsy, Dr. Brandt said that the fundamental abnormality is the impairment of movement *control*. This is in contrast to poliomyelitis, where the essential feature is paralysis or weakness of *movements*. The patient with polio cannot *move* his muscles with normal strength—the patient with cerebral palsy cannot *control* his movements.

"Control means inhibition. Control of movements means screening of power by inhibition of movements, which are non-essential for the purpose. This will allow the individual to perform just the limited operation with his muscles necessary for the immediate task without loss of energy.

"The fore- and hind-brains are the organs for control and inhibition of motion. The higher developed the individual, the greater ability for differentiation of movements.

"The child with cerebral palsy has not developed its normal inhibitory mechanisms. Therefore, its movements are dominated by more primitive patterns of movement, with less possibility for finer differentiation. Such primitive movement pattern will be demonstrated for you on the screen this afternoon.

"The symptoms in each case of cerebral palsy vary according to the type of inhibition defect. And this again depends on the location of the defect in the brain.

"We used to speak about *spasticity*, *athetosis* and *ataxia* as the three main types of cerebral palsy, but other types exist and mixed types are not uncommon. You will be presented to these types on the screen very soon.

"The treatment of children with cerebral palsy has been developed along new lines through the last decades. This is—first of all—the result of pioneering work made by Dr. Phelps in Baltimore, U.S.A. Dr. Phelps—an orthopædic surgeon himself—realized that rehabilitation of children with cerebral palsy was not a simple problem of cutting a tendon or sectioning peripheral nerves supplying muscles—it was a much more complicated problem of educating and cultivating inhibitory mechanisms in such areas of the brain which might have escaped damage. That such cultivation of potential areas in the brain may be possible should not cause surprise : it is only a parallel to the well-known fact among healthy individuals that wide areas of the brain can be trained for special highly skilled work such as piano-playing or equilibration. The provision for such cultivation of reserve areas in the brain of each child is, however, that the brain damage is not too extensive. Whether this damage may be limited or vast cannot be predicted from the neurological examination in all cases. In doubtful cases the only way to give the child a fair chance to develop control of its movements is placement in surroundings where hard and indulgent daily training under supervision of experts is practicable.

"This is the new aspect of cerebral palsy. We remove the handicapped child from its bed or its chair and try to fire upon its brain cortex with stimulating impulses : impulses first of all from its own muscles and joints, produced by means of passive and later active conducted movements. We want to start early in life in order to prevent contractures caused by lack of activity and in order to develop co-ordinated automatic movement pattern. We must therefore awaken the interest for an early diagnosis of cerebral palsy among general practitioners and pediatricians.

"Lack of cortical inhibition of movements goes hand-in-hand with over-sensibility to emotional stimulation. Any cerebral-palsied child gets remarkably worse when feeling anxious or insecure. The treatment of cerebral palsy includes therefore, as some of the most important factors, training in social life and education to self-respect. The child must be matured emotionally as well as physically. This is one of our most important reasons for combining medical training and education. For many younger cerebral-palsied children who are more than mildly handicapped, education in the usual family surroundings means daily defeat against their healthy mates and siblings. This may soon cause loss of self-respect and self-confidence and obstruct development.

"We think, therefore, that special schools are necessary in which the cerebral-palsied child can be given a start in sheltered surroundings. This should—we hope—make it possible for him later in childhood (provided his handicap is not too severe) to join normal schools in society, more resistant to the disappointments and difficulties he will have to face.

"The problem of cerebral palsy is large. Among 100,000 individuals in this country 2 to 3 children are born each year who will come to suffer from cerebral palsy. In other countries—as in the United States—this figure is even higher. Only a part of these children can profit so much from training and education that they may be able to contribute to their own living. Many are mentally defective. A diagnostic screening is necessary before treatment is started. This screening may be difficult and the child must always be given the benefit of doubt. "

A film on **Pattern Movements**, devised by Dr. TEMPLE FAY, of Philadelphia, from a study of the primitive movements of amphibians, was shown, and its bearing on the type of exercise suited to the cultivation of control and inhibition, on the part of the spastic child, was carefully explained.

Dr. JOHN MORTENS, Assistant Orthopædic Surgeon, Orthopædic Hospital, also gave a lecture on **The Orthopædic Treatment of Spastic Children,** explaining in detail the use of physical methods, exercises, orthopædic surgery (mainly arthrodesis of the Lambrinudi type, with or without tendon transference, wrist arthrodesis for cases of severe flexion, and neurectomy of the obturator nerve for adductor spasm, but always confined to cases of late childhood or adolescence), and the occasional use of splints or braces for serious lack of muscle power and balance or to control movements in athetoids. He demonstrated the results of treatment in eight different cases of varying severity, first showing a film of each patient taken four or five months ago, and then showing what each is able to do to-day.

Miss LUNNING, the chief physiotherapist, demonstrated some of the important physiotherapeutic exercises used in the treatment of these children, after which a visit was paid to the Cerebral Palsy Kindergarten, on an upper floor of the hospital, where 12 children who live at home are fetched each morning by the hospital bus and spend the whole day undergoing treatment and kindergarten instruction, and where they are given their midday meal and milk and have a period of complete rest.

F. NEUROSIS

A visit was paid by members of the Course to the Montebello Sanatorium for Nervous Disorders, near

Elsinore, Denmark. This Sanatorium, which was formerly a fashionable convalescent home and health resort, has been taken over by the Copenhagen Municipality and the counties of Copenhagen and Frederiksborg, and is the only neurosis centre in Denmark unattached to a mental hospital. With its charming situation among the beech woods and close to the sea, its beautifully appointed and furnished rooms, the attractive and artistic colour scheme carried out all through the building (particularly noticeable in the dining-room and workshops), and the friendly attitude of the whole staff, the Centre offers ideal opportunities for the treatment and rehabilitation of patients who have broken down through neurotic disability.

A lecture on **The Treatment and After-care of Neurosis** was delivered by Dr. TORSTEN OESTERGAARD, Chief Physician to the Centre, who commenced by reminding the audience that neurosis must be studied and treated as a specific disease and could not be satisfactorily cared for in a mental or general hospital or at home. After paying a tribute to the pioneer work of Dr. H. I. Schou—the first Danish physician to recognize the importance of treating cases of neurosis at special sanatoria—Dr. Oestergaard mentioned that the Montebello Centre had been opened in 1951 ; that it provided accommodation for 100 patients of either sex, between the ages of 18 and 60 ; that patients were admitted from hospitals in the area, after a very careful scrutiny of their case-records ; and that the treatment of each case must be specific and individual, based upon a thorough clinical examination (to exclude possible organic causes, such as hyperthyroidism, anæmia, etc.) and a long and careful system of interviews.

After describing the main symptoms of the neurotic patient—anxiety, restlessness, lack of concentration, exaggeration of physical discomforts, insomnia, phobias, etc.—Dr. Oestergaard explained that each patient was given an individual time-table (or "cure scheme", as it was happily termed), including psychiatric treatment, physiotherapy (massage, relaxation exercises, light treatment, baths, etc.), open-air walks, occupational therapy (needlecraft, carpentry, painting, bookbinding, etc.) and rest periods. Sedatives were employed only in the first stage of treatment, and shock treatment and hypnosis occasionally used. Group-psychotherapy was to be introduced.

There were as few regulations as possible, and various forms of entertainment (music, wireless, films, concerts, etc.) provided in the evening.

The staff of the Institute consisted of 4 physicians, 15 nurses, 2 physiotherapists, 3 occupational therapists, 1 social worker and 1 bath attendant, whose respective duties were described.

Dr. Oestergaard described the follow-up system at present in use—mainly by means of letters to the patients' own doctors—and his plans for an After-care Clinic and more detailed methods of checking the condition of the patients after their return home and to work. The results so far achieved can be seen from the following chart, showing the result of treatment and after-care of the 569 patients admitted to the Institute between 1 April 1951 and 31 March 1952. It will be noticed that the first two columns represent cases rightly admitted to such a centre (cases of general neurosis, and of depression respectively), whilst the third group (including certain cases of psychosis, psychopathy, and border-line patients) are not really suitable for treatment at a neurosis institute. Excluding this group, 55 per cent have recovered or have shown marked improvement as a result of treatment ; 34 per cent showed a definite degree of improvement ; whilst 11 per cent were unchanged.

The average period of treatment was 61 days, but, owing to the inadequacy of accommodation and long waiting list (often six months or more), patients are not received as early as desirable, and there is urgent need for the establishment of more sanatoria.

It is an interesting fact that the second group in the chart (the depressives) are the most responsive to treatment, 83 per cent having recovered or improved considerably and regained full working capacity,

	A Neurosis	B Depression	C Other cases (psychosis, psychopathy, intellectually inferior, etc.)	Total	A plus B Neurosis and depression
Recovered or considerably improved (working ability regained in all)	216 (50 %) 65 days	61 (83 %) 63 days	11 (18 %) —	288 (51 %) 63 days	277 (55 %) 65 days
Improved (working ability regained in majority)	166 (38 %) 66 days	10 (13 %) 85 days	30 (48 %) —	206 (36 %) 66 days	176 (34 %) 67 days
Unchanged or deteriorated (majority unable to work)	51 (12 %) 41 days	3 (4 %) 37 days	21 (34 %) —	75 (13 %) 39 days	54 (11 %) 41 days
Total	433 62 days (76 %)	74 65 days (13 %)	62 48 days (11 %)	569 61 days of total	507 62 days 89 %

13 per cent improved, and only 4 per cent unchanged or having deteriorated.

In a small minority of cases, patients have had to be discharged or transferred to other hospitals.

In assessing these results from the point of view of rehabilitation, it should be remembered that none of the patients were able to continue their normal work at the time of their admission to the Institute.

During the visit to Jutland, a further study of the effects of neurosis on employment was demonstrated by Mr. HENNING FRIIS, Economic Adviser to the Ministry of Labour and Social Affairs, who conducted a forum on **Psychiatric and Psychological Problems affecting Rehabilitation.**

The members of this forum had made a survey of 1,000 men and women who were receiving public assistance, in an endeavour to find out why they were unemployed. In his opening remarks, Mr. Friis stressed that personality, attitude towards work, social milieu and inter-action between mental and physical conditions were the most important factors in this problem. Dr. JAN SACHS followed his remarks with a paper on the psychiatric problems as found in this survey. Dr. Sachs described three cases that had physical disabilities but were not considered by the Invalid Pension Court to be worthy of financial assistance, yet were unable to work owing to their bad psychological adjustment to a relatively minor disability.

> One case had been fully trained as a carpenter at the Society and Home for Cripples Vocational Training Centre. This man was a shy, retiring, anxious, polite person with average intelligence and a willingness to work, who had had poliomyelitis at the age of 5 years and was left with a mild paralysis of his left leg. A combination of his inadequate personality and his physical disability did not allow him to be employed in the open market in spite of adequate training. The second case was a man aged 55 who had a fractured left femur ; he had been refused an invalid pension and was suffering from a traumatic neurosis. This case appeared typical of the compensation neurosis cases in other countries. The third case was a man of 51 with a bad family background, his mother being hysterical and his father an alcoholic ; he developed mild criminal tendencies as a youth and as a result was sent to a Borstal institution. There he had been trained as a painter, but unfortunately had an accident to his left hip. His physical condition was not sufficiently bad to warrant an invalid pension but, owing to his psychological maladjustment, he was unable to maintain himself in the open labour market.

A paper by Mr. HOECK-GRADENWITZ on **Rehabilitation, Initiative and Status** was read by Mr. Friis. It was stated that, in a number of diseases, the organic basis was not sufficient to explain the inadequate working ability of the patient. Physical and psychological components complemented the strength of each other. These components formed such strong ties that there was no question of a simple addition of factors, but of a new and independent unity. Among the psychological components, working initiative and status needs played very important rôles.

> The working initiative was in part dependent on the quantity of psychological energy available and in part on the distribution of this energy. In diagnosis and therapy it must be considered whether it was a matter of asthenia or inadequate energy distribution. As regards the latter, blockings and extraverted interests might cause the energy to be introverted and result in neurosis or a pathological fixation. The status need might be orientated towards the ideological group of which the individual wished to become a member. The individual could neither acquire nor maintain a certain status unless he accepted specific group values, among them the view of the group on social position. An individual who had not acquired a social position recognized by the group would be fearful of losing his connection with the group. Also in this case the reaction might be a "flight into illness". In both instances, either of actual or ideological ties, the illness became a refuge to hide the fact that the individual had not been able to acquire some social rank or other, and it served to relieve a very heavy psychological stress. Where it was a question of ties to an actual group, the illness was also a justification to the other members of the group, and so it counteracted the fear of threatening isolation. It was a fact that members of a group preferred to accept illness in explanation of the patient's status rather than a state of neurosis or even aversion to work. The physical components of initiative and status in inter-play with the physical factors were illustrated by three cases.

Dr. KARL TEILMANN read a paper on **Psychiatric Views on the Rehabilitation of Persons receiving Public Assistance.**

> His first case was that of a 40-year-old married man, a mechanic by trade, who had a long history of receiving public assistance. The physical diagnosis was that of pulmonary tuberculosis, but since the age of 26 he had been unable to maintain himself. He had severe gastric symptoms and asthenia, but his tuberculosis infection was not more severe than that of most of the general population. His real problem was inadequate personality, asthenia and a psychosomatic gastric disfunction. Dr. Teilmann considered that the main causes of destitution were one-quarter purely somatic, one-quarter psychological, one-fifth purely social and one-fifth a mixture of somatic and psychic. In addition to the main causes, he considered there were secondary causes : in 34 per cent there were no somatic causes ; in 33 per cent there were no psychiatric causes. These secondary causes were mainly social, an example being an aggressive attitude towards all authority, the patient feeling he had been wronged because he had not been granted a disability pension. About one-quarter of the total number who applied for a disability pension considered themselves infirm and unable to work but the authorities did not think there was sufficient physical reason to grant a pension. The investigation had shown that the bodily diseases

which were found in this group of patients were mainly such diseases as ordinarily did not seriously impair their working capacity. In many instances, these diseases were combined with one another or in particular with mental disturbances or social maladjustment which explained their lack of working ability. If these patients were to be rehabilitated—which they undoubtedly might be in several instances—the whole state of the patient must be understood and the importance of the psychiatric approach was emphasized.

G. ARTHRITIS

A splendid institution for the rehabilitation of arthritis has been erected in Heinola, Finland, and was opened in July 1951. This hospital, which contains 350 beds (but is not yet fully occupied), is excellently equipped with every facility for exact diagnosis, medical and orthopædic treatment, physio-therapy and occupational therapy.

The Chief Physician of the Rheuma Foundation (which erected and finances this institution), Dr. V. LAINE, gave a lecture on **The Rehabilitation of Arthritics**, of which the following is a summary :

"The prevalence of rheumatic and arthritic diseases is relatively high in Finland, and the economic burden correspondingly great. According to the statements issued by the State Committee in 1947 there are 110,000 people suffering from some kind of rheumatic disease in Finland. There are many diseases in this large group, such as rheumatic fever, rheumatoid arthritis, osteo-arthritis, gout, and that large but diffuse group under the heading of "fibrositis and muscular rheumatism". According to this statement, there are 24,000 patients in Finland who have had rheumatic fever, whilst 50,000 are suffering from rheumatoid arthritis and 36,000 from osteo-arthritis.

"The cause of rheumatoid arthritis remains unknown. Although many theories have been proposed, not one of them has been generally accepted. Rheumatoid arthritis is described as a systemic disease of unknown cause, but in all cases such events as emotional stress and strain, severe nervous shocks and various psychological trauma appear to exert a precipitating influence.

"The frequency of the disability remains comparatively stable for the different age-groups up to 30-34 years ; after that it rises steeply with increasing age. This sudden increase in disability at a fairly early age means that in the majority of cases the time of disability is a long one. The length of life in rheumatoid arthritis is not much shortened because of the illness.

"Each arthritic patient is a unique case and forms its own special problem. This rule seems to be suitable for the rehabilitation programme too.

"Further study and analysis of the arthritic cases gives us some hints in making a systematic division of our targets. This trial should not be taken schematically but we are able to divide our cases into three large groups :

"1. Cases in which the disease until now has not proceeded over the first stage. That means where only periarticular changes are to be found and where none of the articular structures have been destroyed. In this group the cure of the disease is possible and complete restoration is likely. The particular stress in this group lies in the medical care of the cases. The influence of the environmental factors over the rheumatic process is a fact which gives us further suggestions to manage the problem. Our task is to clean up all the factors in the environment producing unfavourable effects on the patient. It is seldom that there is need for a major move such as re-education or vocational retraining.

"2. This group includes all cases in the second state of the disease. That means cases in which there is marked tissue destruction without permanent disability. In addition to the measures mentioned above, combined physiotherapy and occupational therapy will be brought prominently into use. Because the prognosis in this group will be worse, immediate plans must be made for vocational re-education and re-training.

"3. Cases in the third stage of disease, where a permanent disability is a fact. In addition to the measures mentioned above, orthopædic measures play a prominent part in the care of the patient. The problem of rehabilitation in these cases is a difficult one, but on the other hand a more stable one. Major orthopædic measures, operations and prostheses are often capable of producing a new working capacity in a permanently disabled and crippled patient.

"As a medical problem, the rheumatic diseases are included in internal medicine. The care of arthritic patients is generally performed in an internal medical ward, without possibilities of adequate physical therapy and rehabilitation. The solution of the arthritic problem is in those circumstances only half done. To be adequately carried out, a special institution should be available for the care of arthritic patients. The best solution is an arthritic centre incorporated in a medical centre with all specialities. Facilities for an adequate diagnostic station are implicit. Out-patient departments are for the follow-up of patients after treatment and not for diagnostic and therapeutic purposes.

"1. *Social services :*

"The first contact between the patient and the social services takes place at the very moment when the patient appears in the institution. The first contact in our hospital is at the moment the application arrives at the hospital. The full background of the patient's life and history of the disease is recorded. Preliminary suggestions for suitable steps are made. When recorded, a proposal should be made to the doctor in charge and diagnosis and prognosis questioned. Conclusions are made and measures immediately put into effect.

"2. *Physical therapy and occupational services :*

"The connection between these two branches should be as close as possible. I feel it to be possible for the occupational service to be somewhat subordinated to the physical therapy. At all events the physical

therapist, together with the physician, asks special services and gives advice regarding training.

"3. *Educational services :*

"To be able to give the patients the best tools in their hands the hospital should have a good educational service. The best tool for an arthritic patient is a hopeful outlook. In widening the sphere of his vision, this service will give him new qualifications by developing his ability to help himself. Also this branch should be well connected to the other services.

"4. *Orthopædic services :*

"It seems to be common in hospitals for the orthopædic services to be received only from the special orthopædic department. This is insufficient. Minor orthopædic services should be available in each department, and each day in the hospital. Beginning with such small things as plasters, an internal specialist cannot control the situation in all respects. To know the indications in using plasters, to make good cases or splints which fit, to control daily consequences, is a too highly specialized branch to be managed by an internal specialist. Corrective plasters should be made in most cases, including the early stages of the disease. Already those minor measures should have been made in close connection with other procedures on the ward.

"5. *Vocational services :*

"This is not necessary to be expanded to its full extent in a rheumatic centre. In our case, I feel it is possible to reach satisfactory results with consultations from a rehabilitation centre. There are to-day in this hospital 86 male and 172 female patients of whom 16 males and 26 females are in need of vocational retraining and re-education and who are at a suitable age. That means that about 14 per cent of all cases are in need of such a form of rehabilitation.

"6. *Legislation :*

"The rapid progress in the field of battle against rheumatic diseases in Finland is reflected in the legislation. A newly adopted law gives an opportunity to anyone to get State support for institutions reserved and approved for treatment of rheumatic diseases.

"The second law which has been adopted this year but comes into force at the beginning of next year gives to arthritic patients opportunities to receive, when disabled, adequate medical care, medicaments, orthopædic services, prostheses, and vocational re-education and re-training at the cost of the State.

"7. *Economic aspects :*

"There is not much to say about the economic aspects. To give adequate therapy to those suffering from rheumatic diseases is not a small problem. Daily costs in our hospital are 1,000 Finnish marks per person and this is excluding the initial capital. Total costs of this hospital amount to 120 million, about one-eight of the initial capital. We need in this country at least 900 beds for arthritic patients, which means that we need three times as much money as we have to-day. On the other hand, if we are able to avoid giving a pension to one patient suffering from rheumatic disease at an age of between 30-40, this is equal to an initial capital saving of 3 million marks. And this is a large sum of money. The decision in Finland has been the same as in Sweden : it is worth while to try. Perhaps economic reason has submitted to human ideology."

"*Conclusions :*

"The arthritic problem is in most countries an important item. It causes severe and long-standing disability. Until the ætiological factors are known, total recovery is not expected. The proceedings in medical care ensure recovery to one portion of cases ; the minority become crippled despite adequate therapeutic efforts. The need of rehabilitation in the arthritic group is increasing, to cover up the helplessness of the medical care. The care of arthritic patients is best carried out in special centres with all special arrangements for adequate diagnostic measures and for adequate medical care, supported by physical occupational therapy, orthopædic, social and educational services, including consultations on the vocational service branch. A legislative guarantee is a necessary condition for the rehabilitation of arthritics."

H. DISEASES OF OLD AGE

It is only within very recent years that the diseases of old age have been scientifically investigated and grouped, or that methods of rehabilitation technique have been applied to them. Until that time, old people who were no longer able to care for themselves at home, or who had no relatives willing or able to look after them, were only too commonly placed in the chronic wards of institutions, where little or nothing was done to restore their physical and mental capacity, or to separate the mentally degenerate and incontinent from those who were capable of living an active and happy life. Shortage of staff in many such institutions was one of the many reasons for keeping such patients in bed, and but little interest was usually taken in providing them with interesting and profitable occupation.

Fortunately, the new science of geriatrics, as it has come to be called, has brought about a marked change in the prospects of these old people and the members of the course had the opportunity of seeing the modern forms of treatment demonstrated and explained in lectures by Dr. S. ERLANDSSON and Dr. P. BUTLER, during the course of a visit to the *Sabbatsberg Homes for the Aged, Stockholm.*

As explained by Dr. ERLANDSSON, in a preliminary statement, "in Sweden, as in every other country, care of the aged has become an ever-increasing problem in the community. This is due to the constantly growing number of old people during recent years, and to the upward tendency of the average length of life. The ideal appearance of the "population pyramid" would obviously be such that the

productive age-groups be of such magnitude that, by means of their work, they are able to provide for the higher and lower age-groups which, by their own endeavours, are unable to support either themselves or others ; moreover, that the base of the pyramid, as an expression of nativity, shows adequate promise of safeguarding the new growth. This, however, is scarcely the case in Sweden at present, and the development for the immediate decades does not seem to offer any brighter aspect. As far as Stockholm is concerned, the number of persons exceeding 65 years is estimated to become approximately double during the nearest 20-25 years, while those needing "lasting care" in one form or another are calculated to increase in number by at least 60 per cent. Within the next 40-50 years a fairly similar augmentation in the number of aged throughout the country is anticipated.

"By reason of these conditions, the community, with the help of its social and medical organs, must feel obliged to keep these ageing people as far as possible in good mental and physical health, which, in return, obviously involves an increase of capacity on the part of the said organs, With reference to the care of the sick, this implies that doctors and medical science are faced with the necessity for penetrating more deeply into the questions of advancing age and its attendant complaints than hitherto, and partly that the demand on our institutions for the chronically sick is enhanced, as chronic diseases especially pertain to old age.

"In old times, care of the sick, in Stockholm, was mainly carried on by means of private charities. It was most frequently religious societies, monasteries and such, which furnished homes for the poor and the sick, and recourse had to be made to the private individual's generosity for the upkeep of the same. The care of the poor and the sick was apparently then fairly similar. In the year 1531 there was one monastery for such purposes here in Stockholm and, in 1533, its activities were transferred to the Danvik Hospital, which can be looked upon as Stockholm's first hospital, including the physically ill as well as the insane among its patients. It was not until 1752 that Serafimerlasarettet was opened with accommodation for eight persons. From this time, right through the intervening 200 years, the hospital's activities have successively developed to what they are at the present day.

"The poor of the town who, in old times, were obliged to have recourse to begging for a livelihood, subsequently began to be taken care of by orders of monks and nuns and other charitable institutions. But obviously this did not suffice. At the beginning of the eighteenth century, measures were taken for the prevention of begging and distress, and the organs more immediately commissioned to undertake this task were the various parishes, whose duty it was to take charge of their own poor. Homes in common were then established in every parish. However, at this time, the extension of Stockholm was very limited, and there was no space within the central parts for the building of such homes. One turned to the environs of the city. This is briefly an outline of the foundation of Sabbatsberg's home for the aged. As a matter of fact, as years went by, a number of such homes were erected at this place, so in 1752 the first was ready for use, and to-day still stands unchanged in its outward appearance to the left of the main entrance. The other buildings, all of which have a very interesting history but, which, unfortunately I have not time to touch upon, were afterwards successively built up to the year 1782. The entire institution has been subordinate to the Public Assistance Authority of the town, ever since the latter began its operations in 1862.

"The institution functioned solely as a home for the aged up to 1937. From 1753 medical aid was given, inasmuch as, to begin with, a special doctor was appointed to visit those within the home who became ill, and as time went on trained nurses were installed as superintendents. Of more recent years, up to 1937, they were only two in number, the pensioners, owing to modernizations, being about 1,000 in the year 1880 and about 750 in 1936. Medical aid was gradually extended to embrace visits to the institution on certain days of the week and, moreover, calls to sudden cases of illness. The more immediate personal care of the inmates of the home was undertaken by nurses, with very little training in tending the sick. No hospital nursing in its real meaning was established before the new nursing home was opened in 1942.

"The institution consists nowadays of two different types of establishment. There is the home for the aged, with its 360 inmates, who should be well enough to look after themselves, but, for social reasons, must be taken care of in homes with arrangements in common ; and there is the nursing-home, which functions as a modern hospital for the chronically sick. The nursing-home affords accommodation for 370 patients. I feel it a matter of importance, however, to point out that between these two types of inmates there is a group of old people who are not in need of the medical resources which a hospital has to offer, but whose health and strength are so impaired that the resources of a home for the aged are inadequate to meet their needs. These persons need greater personal care and attention than the healthier aged inmates. They need, for instance, help in making their beds, in dressing themselves, in taking food, etc. It has been found practical to place them in a special department, which comprises something between a home for the aged and a hospital for geriatrics.

"Here in Stockholm, care of the chronically sick mainly lies to the lot of the organ for public assistance. Only a smaller number of the chronically sick come under hospital administration. The expediency of the same is disputable and the matter, with respect to the whole country, is being investigated at the present moment.

"The department for the chronically ill at Sabbatsberg mainly houses older patients suffering from chronic diseases, which is obviously in the nature of things. Nevertheless, younger patients with chronic complaints are also admitted.

"Among the various forms of diseases met with here, circulatory disturbances have the greatest incidence. Then come impairments of the nervous system, when the after-effects of cerebral hæmorrhage

and such affections are included. Next in order are diseases of the muscles and joints, which are foremost represented by chronic rheumatoid arthritis. Growths follow in frequency. Time forbids that I go further into the disease question.

"With regard to treatment, I wish to mention that the hospital has an excellent bath department, where different medical baths are to be obtained and trained medical gymnasts co-operate with massage and movement treatment, which is highly appreciated by the patients. Furthermore, I would call attention to the importance of occupational therapy, which we have introduced here under the leadership of specially trained persons. This form of treatment both facilitates the work of the medical gymnasts and tends to shorten the long monotonous days for the patients who, moreover, are happy still to be able to do something useful.

"At the hospital departments there are between 66 per cent and 75 per cent deaths of the yearly discharged patients. The rest are discharged in a more or less improved state of health. In spite of the same, I venture to say that the institution has not by any means the character of a 'death-hospital'. In my opinion, it is of great importance that, as far as possible, patients are assisted to rise, and remain up for at least some time each day. It is of great benefit to the patients themselves and contributes towards giving the wards an active and brighter appearance.

"In concluding this short survey, I will add that I look upon the care of chronically ill aged patients as a very gratifying task. The care, of itself, assumes a very personal character, and affords the doctor at least much medical interest, which renders the satisfaction of treating not only a disease but an afflicted human being."

Lecturing on **Geriatrics and the Aged Infirm,** Dr. BUTLER mentioned that, in the past, he thought that there had been a wrong attitude towards the aged infirm and that "chronic sick" was a bad and inhibiting expression. Potentialities as regards rehabilitation of these cases were very great, provided the team took the right attitude towards the problem.

In his opinion, it was important that the case on admission should be examined as for an acute case—i.e., an accurate scientific diagnosis should be made and, as a result of this investigation, a programme for the patient suitably graded should be made out. He classified the conditions into :

(1) Circulatory disturbances ;
(2) Rheumatic disorders ;
(3) Disturbances of the central nervous system, such as hemiplegia ;
(4) Psychological states ;
(5) Dietetic deficiencies.

Deterioration of these cases should not be taken for granted, as many improved on a appropriate régime. He then cited some simple therapeutic procedures, such as the use of the Guthrie-Smith sling, for restoration of the function of the shoulder joint in hemiplegia. Suitably guided movements in learning to stand and to walk, and the importance of overcoming amnesia aphasia by repetition of nursery rhymes, were also stressed. As regards psychological states, it was important to remember that confusion was often due to infection and should not be mistaken for senile dementia. The aged infirm were often under-nourished and suffering from anæmia and he emphasized the advisability of a high protein diet. In treating the insomnia, so often present in these cases, he wished to emphasize that the aged had a low tolerance to the usual hypnotics, given as routine at hospitals.

An interesting example of the improvement of cardiac function following an amputation of both lower limbs was given.

Dr. Butler gave the principles of treatment as :

(1) An active régime from a mental and physical point of view within the capabilities of the patient. Chronic illness is not always a handicap to endeavour ;
(2) Importance of precise diagnosis and ætiology of the condition ;
(3) The importance of energetic, graded régime ;
(4) The importance of occupational therapy for giving the patient a new zest in living.

The various types of accommodation were then mentioned :

(1) A diagnosis centre ;
(2) A reception centre for convalescence ;
(3) A home for old people giving a protected environment ;
(4) A home for the insane ;
(5) Homes for married couples and single cases who needed help ;
(6) "Pension houses" where the patients could take care of themselves ; and
(7) "Home help", where patients could live in their own homes.

He stressed the importance of almoners or social workers for the full understanding of the case and also the importance of the aim of "independence".

As regards occupational therapy, he stated that many craftsmen remained at work over the age of 70. This therapy allowed old people who tended to become introverted to become extroverted. He stressed the educational value of handicrafts, and stated that the profit motive should take second place, first place being the importance of the therapeutic value. He gave various examples to illustrate his theme.

I. BLINDNESS AND PARTIAL SIGHTEDNESS

The rehabilitation, education, vocational training and employment of blind children and adults formed the subject of a comprehensive lecture, delivered in Finland by the Headmaster of one of the Blind Schools. The following is a summary.

The Rehabilitation of the Blind

Lecturer : Mr. EERO HAKKINEN, M.A.,
Headmaster of the Blind School, Kuopio.

After referring to the very serious nature of blindness as a physical handicap, seeing that 90 per cent of all knowledge is usually considered to be received through visual channels, Mr. HAKKINEN went on to say that the number of blind persons in Finland was stated to be about 3,000, or 75 out of every 100,000 of the population. This compared with an estimate of 100 out of every 100,000 in Sweden, 80 in Norway, 100 in Denmark, 60 in West Germany, 50 in the Netherlands and 43 in Belgium, whereas the figures for the United States and the United Kingdom were each estimated at 175 per 100,000.

The reason for this great discrepancy arose from the difference of definition of what constituted blindness, as adopted by different countries. Thus, in Finland, a man is only considered blind if he is unable to find his way unattended, whereas in the the United States and the United Kingdom a far more precise definition is required. This variation in terms emphasizes the need of exact scientific criteria in defining both blindness and partial-sightedness.

After referring to the Schools for the Blind, of which there are two in Finland, both established more than eighty years ago and now under State control, Mr. Hakkinen mentioned that it was not uncommon for blind children to be received into such schools at the age of 7 who were unable to wash or dress themselves, owing to over-protection in their own homes. Parents should be instructed in the proper care and training of blind children from their infancy, and all should go to a kindergarten, or some such institution for the pre-school age.

Residential institutions are usually required for the proper education and vocational training of the blind child and young adult, but the disadvantage of such a system arises from the segregation which it imposes, and the lack of adequate integration into normal community life. For that reason, the experiment which is now being tried out in various parts of the United States (but which would be very difficult to follow in Finland), under which blind and partially-sighted children are admitted to special classes in ordinary schools, has much in its favour, provided the necessary teachers and equipment are available. In Finland, all teachers of the blind must first pass through their full training as ordinary teachers, followed by a further year of special training in the methods of educating blind children.

Speaking of the adult blind and, in particular, those who have become recently blinded in the comparatively early years of adult life, Mr. Hakkinen stressed the importance of assisting them to adjust themselves to their serious handicap, and in training them to become independent and self-supporting. All who can possibly do so should be taught braille, and they should have as wide a range of vocation as possible.

In Finland, the traditional occupations are confined to brushmaking, basketry and massage, and amongst employable blind persons there are at present approximately 700 to 800 brushmakers, 300 educated masseurs and 50 basket-makers. In addition to these there are not more than 50 engaged in industry, whilst the remainder are mainly occupied with household duties. In the United States, on the other hand, there do not appear to be special trade schools for the blind, on similar lines to those followed in Scandinavia, but more attention is given to short orientation courses of from three to six months, chiefly confined to methods of self-help, braille reading and writing, and certain selected handicrafts. Such courses are followed by special efforts to secure suitable placement for those so trained, and to get them accepted in a great variety of different forms of employment, rather than create "blind occupations", as is so commonly the case in Europe. This system undoubtedly provides better integration into ordinary community life, but it is questionable whether it leads to the employment of a greater percentage of blind people.

The training of the adult blind cannot follow a formula equally suited to every country ; it must be related to economic and industrial conditions in the country itself. If mass-production is common, it is not difficult to find jobs which the blind can do as well as the sighted ; but the goal must always be to train and employ the blind in such a way as to ensure that their work attains the highest possible productivity, and provides the greatest measure of satisfaction to the blind man himself—a goal not yet reached in Finland. More professional occupations, as well as a much wider range of industrial employment, should be open to the blind.

The following additional points were mentioned by Mr. Hakkinen in the course of his lecture :

(*a*) That the education of blind children in Finland is free, and vocational training State-aided.

(*b*) That there are no special employment agencies for the blind, most blind workmen preferring to work independently in their own workshops. There is, however, a need of sheltered workshops for those who are incapable of running their own businesses.

(*c*) "Invalid allowance" is given to all blind persons capable of work and endeavouring to earn a livelihood. This is granted as compensation for his physical capacity, and is not affected in amount by his earnings. It is intended as an encouragement to the disabled to continue working, and affects other classes as well as the blind, though the blind receive the highest rate of such allowance. Its effect is very stimulating.

(*d*) The Central Union of the Blind (Sokeain Keskusliitto) assists in procuring raw materials for blind craftsmen, as well as in helping to sell their products, and also aids in the cultural life of blind people.

(*e*) The rehabilitation of the war-blinded (who number about 200) has been well cared for by the Finnish Red Cross, and has included the establishment of special training-homes, the

provision of a wide range of education and vocational training, financial assistance and pensions, the supply of guide-dogs, and many other amenities.

(*f*) Other assistance for blind persons in Finland, contributing to their rehabilitation and independence, includes the provision of radio sets, reduced taxation, cheaper railway and mailing charges (e.g., for braille letters and books), and gifts of typewriters and tandem bicycles.

Visits were also paid during the Course to the residential school for blind and partially-sighted children, both of kindergarten age and of school age, at REFSNAES, and to the *Blifa Vocational Training Centre for the Blind* in Copenhagen.

Mr. W. BOGH CHRISTENSEN, Chief Administrator of the Royal Blind Institute, explained that the School at Refsnaes housed 120 blind and partially blind children of both sexes up to the age of 13. After this age, the pupils were transferred to the vocational training schools in Copenhagen and the provinces. Four groups were taken round the school and were shown braille writing and dictation on the new braille machines, the study of objects such as models of boats, motor-cars, etc. Natural history was demonstrated by actual stuffed birds and animals. The Group also saw the most advanced class learning to judge weights and elementary physics. All the normal school subjects were also taken by these pupils. The Group was also taken to the kindergarten, where the early training of identification of objects was undertaken with the usual kindergarten subjects. The whole atmosphere and morale of the school appeared to be excellent and the method of teaching blind children appeared to be most enlightening. There was an excellent braille library for the use of the pupils.

In addition to the work of the Royal Blind Institute, which is State-controlled, there exists in Denmark a very active organization composed of people who are themselves without sight and which is known as the National Association of the Blind. After the First World War, this Association did much to prove that blind persons could be employed and become self-supporting under normal working conditions. The Blifa Vocational Training Centre was started in 1938 and financed partly by subscriptions from large industrial concerns and a Government loan of 25,000 crowns. The Director of the Centre is himself blind, but he is helped by a sighted works manager. The BLIFA Vocational Training Centre for the Blind is a lock factory and trains blind persons in engineering subjects and serves also as a sheltered workshop. Four persons were being trained at the time of inspection and they are paid normal trade union rates. In 1951 nine men were trained, six of whom are now employed in open industry, three failing to complete the training for various reasons. By agreement with the trade unions, the period of training has been fixed at not less than nine months. In an interesting conversation with the Director, he stated that the greatest handicap to a blind person obtaining employment in the open market was the over-protected blind school, which sometimes tended towards dependence and not independence.

As mentioned in a subsequent chapter (Chapter XVI) an important follow-up research project is now being carried out, by a special committee established by the Division for Handicapped Persons, Ministry of Labour and Social Affairs, which is closely examining the subsequent history of former students of the Royal Blind Institute, and securing their comments and criticisms on the system of education and training which they had received, and their recommendations of improved measures for the rehabilitation of blind persons.

The special problem of the partially sighted, and the question whether it is best for them to be educated and trained in Blind Schools, in special schools for the partially-sighted, or under special conditions in normal schools, will also be considered by this Committee.

J. DEAFNESS AND HARDNESS OF HEARING

Statutory legislation in Denmark provides for the compulsory notification (by doctors, headmasters and communes) of all children born deaf or extremely hard-of-hearing ; for the expert examination of such children at Examination and Guidance Clinics ; for their free education, both at the kindergarten stage and between the ages of 7 and 16, at residential or non-residential schools : for the free provision of hearing-aids to the hard-of-hearing, both children and adults, at special hearing centres, together with instruction in lip-reading and the use of their hearing-aids ; for vocational guidance and training for both deaf and hard-of-hearing ; and for assistance in securing placement for them in suitable employment.

All children whose hearing is so much impaired as to make it impossible for them to follow instruction in ordinary schools, or in special classes provided for the hard-of-hearing, are taught in schools for the deaf (either residential or non-residential), and their parents receive instruction and guidance from the special Board for the Deaf and from the specialists who are in charge of the Examination and Guidance Clinic.

Members of the course had an opportunity of attending this Clinic, which deals both with the deaf and the hard-of-hearing.

This Clinic is conducted by an acoustic specialist, two psychologists, an otologist and a kindergarten teacher, and its work was described to members of the course by Mr. A. H. C. HOLM. The Clinic examines pre-school children who have been notified to the Board for the Deaf or are referred by the State Hearing Centres, and provides guidance for the parents. The clinic is consultant to the schools for deaf children

in matters concerning pupils with psychical difficulties. If requested to do so, it also examines children from the ordinary schools.

> When a report about a child is received, one of the teachers of the residential schools visits the child's home, carries out a preliminary examination of the child and inquires into the conditions under which the child is living. A report is sent to the clinic. The documents of the case are studied by the staff or the "Clinic Council," and after this the child will generally be requested to attend the Clinic, accompanied by either or both parents, for a more detailed examination, which may extend over some days in some cases. Sometimes the staff of the Clinic will visit the State Residential Schools and carry out the examination there. The examination consists of an audiometrical part (play, tone and speech audiometry), a psychological part (behaviour and speech evaluation, intelligence testing) and a medical part (when the information supplied is incomplete). The parents are interviewed and are given instructions, oral or in writing. The further guidance being planned by the Clinic is given by a teacher at the residential school operating for the district in which the pupil resides. The pupils whom the residential schools want to have examined are requested to attend the Clinic for an observation period.

At the State Hearing Centres, as explained by Dr. H. EWERTSEN, a full case history is taken and a complete medical examination carried out, including social history, and an audiometric examination both for pure tones and for speech. A mould of the ear is made, and the patient is instructed in the use of hearing-aids ; if necessary, he is referred to auditory training, lip-reading and speech-correction by the special teachers : *cf.* above. Patients experiencing difficulties in their trade or profession are referred to the Vocational Guidance Office for the Deaf.

On the basis of data given in a questionnaire received by the patient when he visits the Hearing Centre, difficult cases are followed up.

The technical department attached to the Hearing Centre in Copenhagen carries out the technical work for all the centres. All hearing-aids are tested here before being handed over to the patient.

The State Residential Centre for Hard-of-Hearing Adults at Fredericia, which was also visited, has as its primary purpose the attempt to enable those suffering from the most extreme hearing disorder, and those who have become deaf later in life, to return to a normal existence. The school serves primarily as a residential centre for those patients whom the staff of the Hearing Centres consider ought to receive a specially intensive and all-round treatment.

The school has accommodation for 25 pupils. Admission may take place all the year round. The duration of a course ranges from one to ten months. The number of pupils taught every year is about 50.

The pupils of the school, while attending the course, receive, in addition to instruction, food and board, laundry, medical attention and medicine. Moreover, everybody receives an amount of 15 kroner a month as spending money, and their contribution to the sick fund is paid.

The instruction comprises, above all, lip-reading, by means of which the pupils are taught to read people's speech through the movements of their lips. In addition they are daily given audiological training. Many hard-of-hearing persons have difficulty in getting used to their hearing-aid ; they feel inconvenienced by it, and they do not understand speech through it. The school therefore helps the pupils to get used to the aid and, by means of the hearing education, ability to distinguish sounds is developed so that the hard-of-hearing person better understands what is being said. Moreover, instruction is given in speech-correction and, in special cases, in elementary school subjects, such as reading, arithmetic, etc., and in woodwork, bone-carving and dressmaking.

> The pupils admitted to the school fall largely into six groups :
>
> I. The largest group is composed of *hard-of-hearing persons who have received a hearing-aid* but are having difficulties in getting used to it and deriving benefit from it. These persons are aided above all by going through a course in auditory training and lip-reading, and by receiving instruction in the use of the aid.
>
> II. *Extremely hard-of-hearing persons and persons who have become deaf later in life* who do not derive benefit from the aid and who are trained, more particularly, in lip-reading.
>
> III. *Hard-of-hearing persons suffering from depressions.*
>
> IV. *Hard-of-hearing persons with occupational difficulties.* This group comprises (*a*) the hard-of-hearing who because of his handicap has been disabled in his trade and on completion of rehabilitation measures has to be assisted to take up other work and (*b*) young hard-of-hearing who, after completion of the course, intend to serve an apprenticeship. Vocational guidance is given in collaboration with the Vocational Guidance Office for the Hard-of-Hearing.
>
> V. *Young persons who because they are hard-of-hearing have derived only little benefit from the instruction received in the elementary school.* Instruction is also given in the elementary school subjects.
>
> VI. *Hard-of-hearing children who are to be instructed in the use of the hearing-aid.*
>
> Every year a *few* hard-of-hearing school children are admitted for a comparatively short period to receive, by hearing education, the push forward required to enable them to make good in the ordinary school.

During this visit the Principal, Mr. Sv. VOGNSEN, with his staff and patients, gave a dramatic demonstration of (1) lip-reading, (2) auditory training with hearing-aids, and (3) training in the use of the hearing-aid in various noisy environments such as a factory, an office and a restaurant.

An interesting test of hard-of-hearing persons provided with hearing-aids, based upon hearing alone (lip-reading excluded), shows the marked improvement resulting from auditory training, whilst from questionnaires recently sent out it appears that out of 56 former pupils so followed up, 38 were making use of their hearing-aids throughout the whole day, 14 others from four to five hours daily, and only 2 had discarded them. Almost all use their aids while listening to the radio. Of these 56, 30 are employed, 12 are housewives, and the remainder old-age or invalidity pensioners.

Another interesting experiment which members of the course had an opportunity of seeing is that of admitting a small number of extremely hard-of-hearing children to a normal kindergarten. The experiment has been confined to a maximum of 10 per cent, and these children receive special instruction in speech correction, lip-reading and hearing education, whilst taking part in all the regular activities and school life of the normal children. The experiment appears to be very successful and is to be repeated at other kindergartens.

CHAPTER XV

THE ORGANIZATION OF VOLUNTARY AGENCIES AND ASSOCIATIONS OF THE DISABLED

In Scandinavia, as in most other countries, institutions and societies for the care and training of physically handicapped children and disabled adults began almost entirely as private, voluntary enterprises. During recent years, with the assumption of a fuller degree of responsibility for social welfare on the part of modern governments, many of these institutions have passed under State control, or become State-subsidized. There remains, however, a wide field of social service in which the voluntary agency has a unique contribution to offer in the field of rehabilitation, particularly in urging the claims of handicapped classes who are unprotected or inadequately protected by existing legislation, in undertaking pioneer experiments and methods of research, and in inspiring existing efforts with the warm humanism characteristic of the ideal voluntary worker.

Many examples of splendid private institutions for the care of the disabled were visited by members of the Course, references to which will be found in other pages of this report.

These institutions, by the very nature of their origin, have tended in the past to be somewhat isolationist in outlook, but there is an increasing tendency towards closer co-operation between them, and also between them and the various government organizations, thus avoiding the risk of overlapping and duplication, on the one hand, and of unfilled gaps on the other. The Swedish Society for the Welfare of Cripples is an excellent example of such co-operation.

At the same time there is also a very promising development in the increasing activity and influence of associations formed by the disabled people themselves. In former years, such associations have been mainly concerned with exerting pressure upon Governments, with a view to securing more adequate pensions or other forms of financial concession for those who had become seriously disabled in their country's service ; but a far wider outlook is to be seen to-day. During the visit to Finland two important lectures on this subject were delivered by Mr. A. SIMONEN, LL.B., Vice-President of the Association of Finnish Civilian and Conscript Invalids, and by Mr. KURT JANSSON, Director of Rehabilitation of the World Veterans, Federation and formerly Director of the Finnish Disabled Ex-Servicemen's Association.

Describing **The Work of the Association of Finnish Civilian and Conscript Invalids,** Mr. SIMONEN explained how it came into existence in 1938 as a protest by the disabled themselves against what they regarded as lack of statutory provision and voluntary aid for the physically handicapped, the various legal enactments prior to that date merely offering help in the form of inadequate financial relief. The fundamental principle adopted by the Association from its inception was the promotion of self-help activities rather than financial allowances, so as to enable both war victims and disabled civilians to become self-supporting members of society.

In furtherance of this aim, the Association had been responsible for the following activities :

1. The encouragement of vocational training (now mainly subsidized by the State) and the erection of centres with residential accommodation for 530 trainees, and a wide range of choice of instruction. Of these centres, Westend was the first to be erected in the country, Jarvenpää is the largest vocational centre in Finland, Kolmiranta is entirely devoted to disabled women, whilst the newest centre (at Sultava) specializes in preparation in rural handicrafts.

2. The provision of an intensive course of elementary education for those who have not been able to attend ordinary schools because of their disability.

3. The erection of homes for the disabled, which are attractive in appearance, permanent in structure, and situated in a suitable environment for the employment of the handicapped.

4. The offering of good opportunity for social and cultural enjoyment, recreation, drama for disabled people, etc., through the activities of a large and widespread network of local agencies.

5. The establishment of Rest Homes, and Holiday Centres for disabled adults and physically handicapped children, with provision of all forms of entertainment and sport.

6. The maintenance of a Sales Centre, for marketing the products of the disabled, and also to enable them to purchase raw materials and tools at cheap rates.

Amongst further projects planned by the Association, Mr. Simonen referred to their proposal to build a new apartment house for the disabled near Helsinki, and to establish a rehabilitation centre, swimming-pool and school for educating amputees ; their hope of developing work-homes and work-communities in rural districts ; and the pressure they are exerting on the Government to erect three more orthopædic hospitals in the country and provide better educational facilities for crippled children. (Only one such school exists at present in Finland.)

Mr. Simonen concluded by apologizing for the claim which he had made, on behalf of the Association, for all it had accomplished, and quoted the delightful Finnish saying : "Who will lift the cat's tail if not the cat itself ?"

In the discussion which followed, Mr. Simonen was asked how the extensive activities of the Association were financed. He replied that they now received substantial aid from the State for the maintenance of disabled people undergoing vocational training but that the Association had been responsible for the whole cost of erecting its various centres. This cost had been partly met by voluntary gifts, but mainly by successful business enterprises undertaken by the Association.

The lecture by Mr. KURT JANSSON was devoted to **The Work of the Disabled Ex-Servicemen's Association.** He reminded the audience of the very serious losses and casualties sustained by the Finnish forces during the winter war against the Russians in 1939–1940 and the second war of 1941–1944, amounting to a total of 50,000 disabled persons. This represented no less than 1.2 per cent of the population, and included 5,000 amputees, 9,000 cases of tuberculosis, 300 paraplegics, 187 blind, and several thousand cases of general injuries. Cases of psychosis or severe neurosis, unaccompanied by physical disability, were very rare.

> At the time of the first war (1939–1940) there had been no provision at all for rehabilitation, and everything had had to be improvized, but, with the aid of the Finnish Red Cross, the League of Civilian and Conscript Invalids, and the Women's Federation, the Disabled Ex-Servicemen's Association had been brought into being and had received substantial help from the Government. This Association had continued to be a private organization, but most of the expense was met by Government grants, and excellent co-operation was maintained with Government officials. Arising from the provisions of the War Injuries Act and Vocational Rehabilitation Act, the State was now responsible for—
>
> (*a*) A disability pension for all whose disability was assessed at 10 per cent or over, based on degree of disability ;
>
> (*b*) An additional pension for those totally incapable of work ;
>
> (*c*) A three-years course of training ;
>
> (*d*) Maintenance of families during training ;
>
> (*e*) Job-placement, with provision of raw materials and tools for those setting up in business for themselves.

Amongst the activities undertaken by the Association (or previously carried out in military hospitals), Mr. Jansson mentioned the following :

1. The development of physical rehabilitation in the military hospitals, with the help of physiotherapists, handicraft instructors (there being no trained occupational therapists in Finland) and social workers.

2. Maintenance of full records of all war-disabled, for subsequent transmission to local organizations.

3. Educational and vocational training—at first consisting of short intensive courses of six to ten months, with no attempt at vocational assessment or guidance (owing to the large number of trainees and shortage of technical staff), but now replaced by full courses of training, under an expert staff, and with special reference to the possibility of the man's return to his former work, or suitable employment in his own district.

4. Selective job placement.

5. Erection of houses for the disabled, including 4,000 disabled refugees from the portion of Finland now ceded to Russia. At first an attempt was made to erect villages or large apartment houses for the disabled. It is now found better for them to avoid segregation, and mix with the ordinary community.

Mr. Jansson stated that 11,500 war-disabled had been trained for industrial pursuits and 2,500 for professional or semi-professional occupations ; that 95 per cent of all war-disabled were now self-supporting so far as the Association had records ; and that homes for 4,000 war-disabled had been provided by the Association.

It is an interesting fact, which was brought to the attention of members of the Course by Mr. CHARLES HEDQVIST (himself a blind man), that in Sweden the various associations representing the disabled have combined together to form one central committee. This committee formulates policy for all the various types of the disabled—the blind, deaf, crippled, paralysed, etc.—and submits to the Government a statement of their recommendations and plans. At the same time they initiate action, calculated to assist the disabled to live more independent lives, as in the design of houses and of various types of wheelchair and other technical aids.

A similar central committee, representing all associations of the disabled, has also been formed in Denmark, and is constantly consulted by Government authorities on matters concerning the rehabilitation and welfare of the physically handicapped.

The possibility of closer co-operation between the various voluntary agencies which are working on behalf of the disabled, and between the various associations of disabled people, and the joint co-operation of both with the interested Government departments, is to be earnestly desired, and will do much to further the aims of rehabilitation.

CHAPTER XVI

PROBLEMS FOR FUTURE RESEARCH

The final lecture of the Group-training Course was delivered on 31 October by Mr. HENNING FRIIS, Economic Adviser to the Ministry of Social Affairs, Copenhagen, and Chief of the Statistical Division of the Ministry, on the subject of **Statistical, Sociological and Psychological Research on Disability and Rehabilitation.**

On introducing the lecturer, the Chairman (Dr. Balme) drew attention to the fitness of the subject as the closing theme of the Course, and to the great lack of reliable data on the results of the various methods of rehabilitation technique, vocational training and selective employment, such as had been demonstrated during the course of study. Great attention was being paid in many countries to the improvement and expansion of these services, but very little was yet known as to what happened to the majority of these disabled persons when they resumed their place in the social environment of their own homes, or attempted to adapt themselves to the demands of modern industry. Did all disabled people secure the advantages of modern rehabilitation, and at an early stage of their disability, or what percentage was missed ? Were those who passed through special institutions and training centres immediately placed in suitable employment, or did many drift into unsuitable work, such as had been revealed by the recently published report of the British Medical Research Council on "Employment Problems of Disabled Youth in Glasgow" ? What percentage of disabled people who had been placed in selected employment remained contentedly and successfully at work after one year, or two years, or five ? What happened to those who remained unemployed ? These, and many similar questions, needed to be carefully looked into and answered before any reliable information would be available as to the success or failure of rehabilitation and training services, and it was for that reason that wisely conducted schemes of follow-up and research were urgently needed.

Mr. FRIIS opened his lecture by emphasizing the fact that, although various statistical research studies had been carried out in many countries, particularly into the prevalence of physical disability in relation to the size of population, their value for comparative purposes was considerably reduced by lack of definition as to what constituted physical disability ; by failure to correlate such findings with other important data, such as age-grouping, vocation, the type of disability, etc. ; and by insufficient attention to the psychological and sociological factors concerned in the problem. In too many instances, also, physical disability was thought of in terms of certain well-recognized forms of disablement, whereas chronic illness, which was probably accountable for the majority of cases of physical handicap, was often ignored. On the other hand, it was a matter of surprise that government departments and private agencies continued to spend large sums of money every year on rehabilitation and training services for the disabled, but took so little pains to discover, by suitable research, how far such schemes had succeeded in their object.

> "The best form of statistical research is that which is carried out by means of relatively small sample studies, confined to a particular disability, such as the 'Survey of the Prevalence of Deafness in the Population of England, Scotland and Wales', published by the British Central Office of Information, and the report on 'Causes of Blindness among Recipients of Aid to the Blind', published by the American Federal Security Agency.
>
> "Mr. Friis also referred to a useful statistical study on the reasons why people apply for public assistance, which was carried out by the Social Welfare Board in Denmark, with the help of a doctor and psychiatrist, and was followed up during a period of years of full employment ; and to a new study on the follow-up of cases of blindness amongst students who had been through the National Blind Institute in Copenhagen during the years 1939-1945. This last-mentioned study, which is being conducted by a special committee on which a case of total blindness and one of partial-sightedness are both represented, not only covers the subsequent history of former students of the National Blind Institute in such matters as improvement in sight, occupation, income, housing, social amenities, use of leisure time, degree of independence, etc., but also includes the student's criticism on the methods employed during his education and training.
>
> Research on rehabilitation problems and the training of the disabled need to include information as to the condition of the disabled person before rehabilitation, the length of time which elapsed before it was commenced, his condition at the conclusion of treatment and training, the state of the labour market when he entered employment and in the succeeding years, and a careful evaluation of the methods employed and of follow-up schemes. The technique of such a research should be carefully worked out beforehand, with the aid of expert statisticians, and the particular goal clearly defined. Unless successive studies are carried out by the same individual or group who undertook the first, comparisons are of little value, owing to differences of objective or of standards. Even if the same individual is undertaking a further evalua-

tion study after a period of years, allowance must be made for the different social or economic conditions then prevailing.

Several questions were addressed to Mr. Friis at the conclusion of his lecture, and Mr. NORDAL gave an interesting example of a simple but very useful follow-up study on the results of selective placement which had been carried out in Norway, and which had proved that a number of displaced people who had previously been costing the State 120,000 crowns for their maintenance were subsequently contributing over 80,000 crowns to the State in income tax, as a result of successful placement in employment—a fact which had proved of great value in convincing members of Parliament and others of the economic value of rehabilitation and resettlement technique.

The following books and reports were mentioned by Mr. Friis as worthy of special study in connection with this subject :

"Chronic Disease and Psychological Invalidism" by JURGEN RUESCH. University of California Press.

"Skill and Age", by A. T. WELFORD. Nuffield Foundation and Oxford University Press.

"Survey of the Prevalence of Deafness in the Population of England, Scotland and Wales", by LESLIE T. WILKINS. British Central Office of Information.

"Causes of Blindness among Recipients of Aid to the Blind", by RALPH G. HURLIN, SADIE SAFFIAN and CARL E. RICE. Federal Security Agency, Washington.

"Measuring Results in Social Casework", by J. MCV. HUNT and LEONARD KOGAN, Family Service Association of the United States.

"The Prediction of Personal Adjustment", by PAUL HORST. Social Science Research Council, 230 Park Avenue, New York.

"Employment Problems of Disabled Youth in Glasgow", by T. FERGUSON, A. N. MACPHAIL and MARGARET I. MCVEAN. Her Majesty's Stationery Office, London.

"Training, Rehabilitation and Resettlement". Report of Select Committee on Estimates. Her Majesty's Stationery Office, London.

"Testing Results in Social Casework", by J. MCV. HUNT, MARGARET BLENKNER and LEONARD S. KOGAN. Family Service Association of the United States.

CHAPTER XVII

GROUP DISCUSSIONS

One of the most valuable features of the Course was the holding of group-discussions on subjects concerned with the organization of rehabilitation services, and there was general regret that the programme did not allow for more of these sessions. This method of study was new to those attending the Course, and, after experiment, it was found that the best technique was as follows :

1. The choice of subject having been carefully selected, a statement of the questions for discussion was circulated a few days before the actual meeting.

2. The subject was opened on each occasion by a specially appointed speaker, who gave a general description of the topic under consideration and of the particular points on which the opinion of the groups was desired.

3. The participants were then divided either into national, technical or international groups, according to the nature of the subject. Each group met in a separate room, elected its own chairman and rapporteur, and spent approximately one and a-half hours discussing the points at issue and preparing a report.

4. During the first meetings of the Course each group was asked to prepare its report in the form of a written statement in English, which was afterwards read to the whole assembly. This method was found to be unnecessarily cumbrous and time-consuming and in the later group-discussions it was abandoned in favour of oral statements by the rapporteurs of the various groups, taking up one question at a time and throwing it open for general discussion.

5. Finally, the Chairman summarized the whole discussion, and drew attention to the main points brought out in the reports of the various groups.

An attempt was made to discuss a subject by mixed international groups, but the general feeling of the participants was that they were not mature enough to attempt this rather advanced technique and, as a result, subjects were discussed either by (*a*) technical groups, or (*b*) national groups.

The following subjects were discussed :

1. *The Principles of Observation*—introduced by Dr. Sailer and closed by Dr. O'Malley. (Technical groups.)
2. *A Case History of Poliomyelitis*—opened and closed by Dr. O'Malley. (Technical groups.)
3. *Co-ordination and Team-work*—opened by Dr. Balme and closed by Dr. O'Malley. (National groups.)
4. *The Relationship of State Agencies and Voluntary Organizations in Rehabilitation of the Disabled*—opened by Mr. Nordal and closed by Dr. Balme. (National groups.)
5. *The Organization of Rehabilitation Services in a Province*—opened by Dr. Venema and closed by Dr. O'Malley. (National groups.)
6. *The Rôle of the Social Worker in the Field of Rehabilitation*—opened by Dr. Balme, Mrs. Sailer and Dr. O'Malley ; closed by Dr. O'Malley. (National groups.)
7. *How best to educate Public Opinion regarding Problem of Rehabilitation*—opened by Dr. Balme and closed by Dr. O'Malley. (National groups.)

1. The Principles of Observation

In her opening remarks, Dr. Sailer explained briefly the necessity for giving some thought to the question of how to make observations in a foreign country most effectively.

Everybody has his individual way of observing and it would be profitable to share the experiences among the participants ; in addition, many participants might not have had time to give thought in advance to the question of the methods of observation.

Although the aim, of course, is towards an objective approach, every observation depends also on many subjective factors—e.g., previous experience and the professional knowledge that is being brought to this observation. It is well known that two people looking at the same thing might make different observations. The fact that a person has previously studied abroad might also play an important rôle.

Dr. Sailer commented on the fact that an objective approach is not only essential when making observations in a foreign country but also when evaluating the situation in one's own country. One immediate reaction when observing in a foreign country is that of comparison and the first point to be discussed in the group is therefore : "What do we compare and at what time should we start to compare ? Should we start to compare right away, or at what stage would a comparison be most constructive ?" She pointed out that comparisons might be made at very different levels :

(1) Comparison of techniques,

(2) Comparison of institutions with institutions and

(3) Comparison of the way a country tries to solve the problem of disability.

Every disabled person, wherever he lives, has certain basic needs which have to be satisfied. Apart from

the need for medical treatment and the need for security, he also needs to feel accepted, and to take part in the normal life of the family, of the group and of the community. Every institution has to be seen as a part of the total services provided for the disabled and the observation should therefore include learning about the objectives of the institution, its structure and its function.

The second point to be discussed was : "On what points from your professional point of view do you want to have information during a visit ?" ; and the third point : "Discussion of the plan of the course, with reference to the particular professional interests of each group".

In this connection, Dr. Sailer mentioned that every observation really consisted of three stages—the preparation for the visit, the observation itself, and the use to be made of it. She reminded the participants that, at the conclusion of the Course, each of them would be required to share in the final reports drawn up by their national teams, which would include an evaluation of the course itself, a comparison with the situation in their own respective countries, and recommendations for improvement in their own rehabilitation services, both on a short-term and long-term basis. She therefore emphasized the importance of keeping careful notes with this object in view.

The groups were then divided as follows :

Group 1—Vocational assessment physicians and Vocational Counsellors ;

Group 2—Health and Labour Administrators ;

Group 3—Orthopædic surgeons, physical medicine specialists, physiotherapists and remedial gymnasts ;

Group 4—Social Workers and after-care nurse.

Most members of the national teams agreed that it was too early in the Course for them to be able to make an accurate comparison of what they were hearing in lectures or observing during visits to institutions until they had had fuller time to study and understand the whole programme of rehabilitation. Each group expressed the desire for more opportunity to meet those engaged in the same technical speciality as themselves and to learn all they could about their training, sphere of work in institutions and in the community, and the exact rôle which they played in the rehabilitation service.

Other important points which were stressed in their reports were as follows :

(1) That lectures and demonstrations should be shorter, so as to allow more time for discussion and note-taking.

(2) That fuller information should be supplied in advance about social and economic conditions in different countries or districts.

(3) That more guides should be available at the various institutions visited, able to supply technical information in reply to questions asked by the participants.

(4) That the diagnosis and case history should be supplied of every patient demonstrated at rehabilitation and training centres.

(5) That a glossary of terms used in connection with rehabilitation should be supplied.

(6) That fuller lectures and discussions should be provided on such subjects as the work of the Labour Market Board, the follow-up of patients after leaving hospitals and institutions, an evaluation of rehabilitation centres visited, etc.

2. A Case History of Poliomyelitis

The medical history and general record of an actual case of poliomyelitis which had been treated at the Garston Manor Rehabilitation Centre were carefully explained by Dr. O'Malley, details having been previously circulated to all participants. Comments on the case-record, and on the rehabilitation of such a patient, were requested from the technical groups, who were divided for this purpose as follows :

Group 1—Doctors, physiotherapists and remedial gymnasts ;

Group 2—Social Workers ;

Group 3—Vocational Counsellors ;

Group 4—Medical and Labour Administrators.

Their reports were as follows :

Group 1. Stated that there was no evidence that this case had had a full course of rehabilitation including electrotherapy and remedial exercises. The Finnish members recorded that electro-therapy was not used in cases of poliomyelitis in Finland. The question of orthopædic procedures was discussed and the conclusion was reached that no question of tendon transplant should be considered until eighteen months had passed from the time of onset. It was thought important to consider this question to increase the function of the left hand. It was also considered that this case should be supplied with callipers or braces for both legs. The group stressed the importance of educating the patient to write with her right hand. It was found difficult to come to any conclusion regarding the resettlement of this case by group 1 until it had obtained further information from the other groups.

Group 2. Stated that the case history from a social worker's point of view was incomplete. They wished to know more about the social background and the attitude of the patient to her disability. They also wished to have some information on the emotional aspect of the case and stressed the importance of the patient's relations with the opposite sex, "Had she a boy friend" ? They wished to know more about her own desires regarding the future, both as to where she was going to live and what sort of job she wished to take up. This group stated that they would wish to follow up the case in co-operation with the other members of the team.

Group 3. Stressed the importance of :

(i) A personal interview ;

(ii) Co-operation with the social worker ;
(iii) Complete information regarding capabilities from the doctors ;
(iv) The patient's financial circumstances ;
(v) Psychological information regarding the patient's personality ;
(vi) Team work.

This group thought that the information supplied was insufficient for a firm decision to be given.

Group 4. The problems of administration in the different countries represented had been discussed, particularly in regard to the organization of rehabilitation and resettlement. The group stated that it was impossible for the administrators to reach a decision until they had received detailed reports from the other members of the team. They agreed that the problems of administration should be considered at the end of the discussion after other groups had given their views.

From this discussion, it was obvious that rehabilitation and resettlement could be carried out only by teams working in close co-operation and with full integration of all the various organizations. This problem was brought into high light by the discussions of the groups.

Dr. Grieg asked what had happened to the patient, and Dr. O'Malley made the following statement :

Nine months had passed since the report was written. The patient was at present at a vocational training centre learning secretarial work. She could write with her right hand, go upstairs ; she was still wearing callipers. She had been provided by the Ministry of Pensions with a motor-propelled vehicle which enabled her to attend the vocational training centre daily. She was living with her aunt and had a boy friend whom she had met at the Rehabilitation Centre ; he was a milder case of poliomyelitis. She was seeing her orthopædic surgeon regularly every month and the problem of "tendon transplant" was still under consideration. She could type with her left hand with the aid of a finger extension splint.

3. Co-ordination and Team-work

In opening this discussion, Dr. Balme described it as the most difficult and important subject of the Course. "It is difficult because technical specialists are usually so taken up with their own important work as to fail to see the importance of understanding the work of the other members of the team. It is a most important subject, as the lack of efficient team-work represents the most serious deficiency in establishing rehabilitation services in every country, and very few people are conscious of the lack, whilst the actual success of any rehabilitation scheme is in direct proportion to the degree of team-work developed and the spirit of unity created."

As examples of the lack of real team-work, Dr. Balme mentioned that few orthopædic surgeons know the details of a physiotherapist's work or take interest in the social and vocational problems of their patients ; that physiotherapists are often quite unfamiliar with the contribution of the occupational therapist to physical and psychological rehabilitation ; that social workers and vocational counsellors are apt to be ignorant of the important part played by the doctor and remedial gymnast, such as was so excellently demonstrated at the Serafimer Hospital in the case of post-traumatic headache and debility ; that Health Administrators may fail to relate the health services to the problems of useful activity and employment ; whilst Labour Administrators may regard their function as that of doing the best they can to train and employ the seriously disabled, whilst paying little regard to the methods of preventing or reducing such disability.

"In dealing with the problem of physical disability it has to be remembered that we are dealing in each case with a single individual, but an individual who may easily become a victim of chronic invalidism or neurosis if gaps are allowed to occur between the many agencies taking part in his rehabilitation. Those agencies are very numerous, and include any of the following :

"1. *At Government level*—Ministries of Health, of Education, of Social Affairs, of Labour and (as in Sweden) Central Boards dealing with Employment and Pensions.

"2. *At Community level*—Regional officials connected with any of the above-mentioned Ministries and Boards ; local community officials ; district medical officers and nurses ; social workers; and representatives of voluntary agencies and leagues of the disabled.

"3. *At Institutional level* there should be a rehabilitation team, in which medical, psychological, social and vocational specialist services are all represented :

"(*a*) *The medical services* include the physician or surgeon in charge of the patient, the medical specialist in physical medicine (when available), the nurses, physiotherapists, remedial gymnasts and occupational therapists.

"(*b*) *The psychological services* should include the doctor caring for the patient, whose words of sympathy and assurance may be all that is needed to gain confidence and co-operation—especially if he is backed up by the right psychological approach on the part of nurses, physiotherapists, occupational therapists and social workers. But, in cases of severe psychological disturbance, the services of the trained psychiatrist, with the help of the psychiatric social worker, are also essential.

"(*c*) *The social services* consist of trained social workers attached to the hospital or rehabilitation centre and similar experts working in the community in which the disabled person resides, all of whom should be able to deal with serious problems requiring special knowledge of the conducting of case-work, whilst at the same time be able to give information on all types of social welfare and assistance which the disabled may need. But here again, as in dealing with the problem of vocational guidance, the doctor who is

looking after the patient and has secured his confidence and co-operation should take the lead in showing real interest in his personal and domestic problems, his social environment, and the suitability of the occupation which he hopes to follow.

"(*d*) *The vocational services*, in addition to the doctor, include experts in the assessment of disability, counsellors in selection of vocations, instructors and helpers in all types of professional or industrial training, placement officers or D.R.O.s, and officers responsible for subsequent follow-up of all disabled people placed in new vocations.

"These various agencies and groups may work quite independently of one another, in which case the patient is only too apt to be forgotten as a single, connected problem. Or there may be some degree of co-operation, each agency or group knowing something of the other's plans and activities and being prepared to share in certain of them, but still maintaining an independent approach and line of action.

"A third method is that of co-ordination, in which independent agencies or departments confer together before making their plans, give way to one another wherever a particular activity could be better performed by one of the other groups, and carry out their activities so as to converge rather than to act along parallel lines. This method of co-ordination is increasingly used by the United Nations and Associated Agencies in dealing with the problem of physical disability ; and also by Government Departments, and by community agencies, in certain countries.

"The fourth and most alide method is that of complete team-work, in which the various groups concerned with the treatment and welfare of the disabled in a common institution or centre work as a single team, under a leader who guides and inspires their activities but gives full place to each member of the group, and provides opportunity for constant conference and interchange of views."

The participants in the Course then divided into national groups, each of which was asked to discuss the following questions :

1. What are the main obstacles to co-ordination and team-work in dealing with the problems of the disabled ?
2. How can such obstacles be removed :
   (*a*) at Government level, between the various Ministries and Boards concerned with the disabled ;
   (*b*) at community level, by promoting better team-work between Government and voluntary agencies ;
   (*c*) at institutional level, by forming closely united teams of rehabilitation workers, including specialists in all aspects of the problem ?
3. How can better co-ordination be secured between the rehabilitation team in a hospital rehabilitation department or special rehabilitation centre, and those who will have the after-care or maintenance of patients after they have left such a centre ?
4. Where would you start to develop co-ordination or team-work in a country or institution where it does not at present exist ?

The reports of the national teams are summarized as follows :

In regard to question 1, the obstacles were divided into five main classes—historical, organizational, educational, economic and psychological :

(1) *Historical*

It was felt that the medical services, social welfare and vocational guidance have grown up from different origins and are part of bigger units covering also the non-disabled. It was therefore very difficult to separate, for instance, the medical aspects of rehabilitation from the general health services, the vocational aspect from the general labour questions, etc. Existing legislature was inadequate in solving the problems in a broad co-ordinated way as it consisted in many countries of too many disconnected laws.

(2) *Organizational*

As the medical, social welfare and vocational guidance services had developed independently from one another, the responsibilities between the State, communities and voluntary agencies had not been divided according to a well-established plan but rather for historical reasons.

(3) *Educational*

The general lack of knowledge of modern rehabilitation was felt to be one of the greatest obstacles in establishing co-operation and team-work when dealing with problems of the disabled. It was considered that the government should take responsibility for giving direction in the development of a good rehabilitation scheme. Another practical difficulty in establishing teams was stated to be the lack of specially trained personnel. It was further brought out that special education in rehabilitation should be included in the training of the team members, especially the physicians, nurses, social workers, vocational counsellors, etc. In one national report it was stated that "lacking ability for co-operation and team-work may be traced back to traditional upbringing and education in many countries. The tendency to perfectionism seems to be one of the results of modern specialization and perfectionism is seldom apt to co-operate in any form. Perhaps a broader and more comprehensive education in general culture might be of value—also for future rehabilitation work in most countries."

(4) *Economic*

It was stressed that the value of rehabilitation was not generally understood by the authorities and that sufficient means to create a comprehensive system and a complete staff on the local level were not provided. It was stated that, in countries where the demand for workers exceeded the supply of able-bodied employable persons, the government was induced to mobilize all the existing reserves of manpower. This seemed to be the most important cause of creating rehabilitation institutions. Where unemployment existed, as in

some of the countries represented, and where there was no incentive for the disabled to work because his needs were provided for by pensions, no need for establishing a rehabilitation programme made itself felt.

(5) *Psychological*

One of the most important obstacles was felt to be on the psychological side. It was emphasized that individuals as a rule have a strong desire to work independently and therefore are not willing to contact and co-operate efficiently. This was also felt to be true for institutions and organizations which wanted to go ahead with their own plans without regard to what others were doing in the same field.

In reply to question 2, the following suggestions were made :

(*a*) The establishment of a committee on the highest level (a policy-making body) consisting of representatives from the interested Ministries and Boards, including representatives of labour and employers' organizations and of organizations of the disabled themselves, and others concerned with the problem. This committee should be able to give advice to the government and also educate public opinion.

(*b*) The obstacles could be removed at a community level by founding a regional council in the same way as mentioned under (*a*), having contact with the higher and lower levels. The regional level would have an important rôle in bringing together all the different agencies working in this field.

(*c*) The realization of a close contact between the different workers in the team. In connection with this point, it was important to make a central organization in each county or community where there were possibilities of assembling all the facts about the disabled.

Other recommendations were the "enlightening" of key-position officials ; the training of a greater number of specialists who should be educated in the spirit of team-work ; where some members of the rehabilitation teams were not represented on the staff, consultant specialists should be assigned to the team.

It was considered very important to obtain objective advice from a specialist in this field, if possible, from the United Nations.

As far as question 3 was concerned, it was brought out in most national reports that regular staff meetings of physicians working in the hospital, almoners, physio- and psycho-therapists, as well as district D.R.O.s, should have a healthy influence on co-operation in a hospital rehabilitation department.

In answer to question 4, all national groups agreed that it was necessary to start on the highest level—that is, on a parliamentary and governmental level. In one report, however, it was stated that no rehabilitation scheme would be successful unless rehabilitation started right in the hospital.

4. State Agencies and Voluntary Organizations

The subject was opened by Mr. K. W. Nordal, of the Norwegian Directorate of Labour, who reminded the audience that in almost every country pioneer work on behalf of destitute and physically handicapped persons had been started by voluntary charitable organizations, often religious in character. With the development of State interest in social welfare, however, the responsibility for developing such services was being increasingly borne by governmental and communal agencies. At the same time there was an increasing demand, on the part of the disabled themselves, for government action in giving them opportunities of welfare and employment. The question therefore arose as to whether the voluntary agencies should withdraw their activities in this field and leave the whole burden to the State, or whether they still had a distinctive part to play.

This question first affected the important matter of *Finance*. Should the State be expected bo bear the whole cost of services for the disabled, or should private agencies also be asked to contribute, in socialistic as well as in capitalistic countries ?

It also affected the question of *Control*. Should State-subsidized institutions be wholly controlled, partly controlled, or not controlled at all, by government officers ?

It also affected very closely the question of *Research*. State officials were expected to become as perfect as possible, and not to indulge in experiments that might turn out to be failures, whereas private research workers were not, as a rule, so limited, and could experiment on lines that might ultimately prove unfruitful.

It was therefore important to consider whether co-operation between government and non-governmental organizations was possible and desirable, and, if so, how it could best be brought about and what was the respective function of each.

The group was then divided into national teams and asked to consider the following questions :

1. What is the rôle of the State and the voluntary organizations in the field of rehabilitation relative to—
   (*a*) Finance (*b*) Control (*c*) Research ?
2. What are the main voluntary agencies in your country concerned with the problems of the adult disabled ?
3. Are they mostly—
   (*a*) Religious organizations ?
   (*b*) National charitable organizations ?
   (*c*) Local or communal charitable organizations?
   (*d*) Leagues of disabled people ?

The main points brought out by the discussions in the various groups were as follows :

Austria

Services for the disabled are mainly State-controlled, resulting from specific legislation, which gives the government the right of control of all aid for disabled people covered by the various statutory legislation. The financing of rehabilitation is borne by the Accident Insurance Societies (for all industrial accidents),

or the State for the non-insured, patients being expected to pay for hospital treatment and rehabilitation according to their ability. Research work is mainly the province of the State but should be spread over several institutions. The chief voluntary organizations assisting the disabled are the Insurance Companies, Red Cross, certain religious orders (mainly Roman Catholic), the Society for the Welfare of Cripples, and the Organization of War-disabled. Apart from the Insurance Societies, these organizations are mostly very poor, but they supply initiative and enthusiasm.

Denmark

In Denmark, it is possible to find three types of institution dealing with the disabled :

(*a*) Those which are entirely financed and controlled from private initiative ;

(*b*) Those which were started by private agencies and are still to a large extent so controlled, but which receive substantial State aid and are subject to a certain measure of State control (approval of budget, representation on governing board, etc.) ;

(*c*) Those which are entirely controlled and financed by the State.

There is no special law in Denmark dealing with rehabilitation, which is covered by various Acts, nor is there any State provision for vocational training. A certain amount of medical rehabilitation occurs in the hospitals, and the Invalidity Insurance scheme provides for some vocational training as well as disability allowances. All education of disabled is cared for by the State, which also subsidizes certain of the private institutions caring for particular types of disability.

There are many gaps in the present rehabilitation and training services and in the necessary degree of co-ordination between the State and the voluntary agencies, and it will be the endeavour of the Danish teams to put into practice what they have seen and heard during the present course.

Finland

The voluntary agencies have pioneered in all fields of work for the disabled, but, under recent laws, the State not only recognizes these various agencies, but also contributes the major portion of their cost. They remain privately controlled, but with State representation on their Boards and right of inspection. This control and finance is shared by various Ministries. In matters of research, the State's chief interest is in collection of statistics, rather than in pioneer experiments, which are usually left to private enterprise. The voluntary organizations are limited in funds but supply valuable initiative and drive.

Greece

The difficult economic conditions in Greece and relative poverty of the voluntary agencies place the chief responsibility for rehabilitation services on the State. When they give full financial support, they exercise complete control, but they also give partial support to agencies which can bear part of the financial burden, and in such cases State control is only indirect. Research has been mostly conducted by private enterprise, but the State has now set up a department to encourage this work. It is also taking an active part in developing rehabilitation services.

Amongst the many voluntary agencies assisting the disabled in Greece are the Red Cross, the Association of War-disabled, the Hellenic Society for the Crippled, the Lighthouse for the Blind, etc.

Italy

In Italy, the dominating problem is that of unemployment, as a result of which neither the State nor the voluntary agencies have done much to encourage active rehabilitation and vocational training for the disabled, nor is there much co-operation between them. The Accident Insurance Societies (INAIL) maintain a rehabilitation centre and provide all forms of care for industrial accident cases ; the State organization (ONIG) makes similar provision for the war-disabled ; and local authorities are required by law to care for certain types of disability (e.g., blindness) among the non-insured. But there is great need of wide propaganda and general education on the rehabilitation, training and employment of disabled people. This will have to be mainly under State control, as there are hardly any voluntary agencies dealing with it. Research, also, badly needs organization.

Netherlands

The most important work of the voluntary agencies is the providing of initiative, but State help is required both in matters of finance and of legislation. For this reason, and also to provide better co-ordination, control of rehabilitation services should be mainly in the hands of the State, and they should be asked to assist research, which should be carried out on an international level.

Norway

In Norway, the voluntary agencies, which are very strong, mainly fill the rôle of acting as pioneers in the field, collecting funds, and raising public opinion on the rights and potentialities of the handicapped.

The State, on the other hand, ought to undertake responsibility both in running its own rehabilitation institutions and also in subsidizing the private organizations. There should be some measure of State direction and control in return for such subsidies.

Research work should be largely left to private initiative, working in close co-operation with the State, but the Government should also be prepared to undertake and finance large research projects.

The chief voluntary agencies in Norway working on behalf of the disabled are the following :

(1) Red Cross,
(2) Norwegian Women's Health Organization,
(3) National Association in Fight Against Tuberculosis,
(4) Norwegian People's Health Organization,
(5) Norwegian Rheumatism Organization,
(6) Norwegian Association for Infantile Paralysis,

(7) National Association for the Crippled,
(8) Association of the Tuberculous,
(9) Cerebral Palsy Society.

Sweden

The State should take increasing control of all projects for the rehabilitation, training and employment of the disabled, in accordance with recent legislation, but there will always be an important place for the voluntary agencies in the providing of initiative for pioneering efforts, the willingness to undergo sacrifice for the disabled, the educating of public opinion, and the undertaking of new experiments. The private organization, working in close co-operation with a State agency, can also help to improve human relations and make them more intimate. On the other hand, voluntary agencies which work in isolation and are hard pressed for finance can easily become bureaucratic.

The financing of rehabilitation projects should be shared by both State and voluntary agencies, as the collecting of money by the latter is a good means of propaganda.

Basic research work should be a State obligation.

5. The Organization of Rehabilitation Services in a Province

Dr. F. B. Venema, Chief of the Rehabilitation Centre in Enscheme, the Netherlands, and formerly a Provincial Medical Officer, introduced this subject by pointing out that, before planning a provincial rehabilitation service, a great deal of information must first be obtained regarding the province itself, as the facilities appropriate for development in one province might be quite unsuited to another. In particular, he referred to the following points on which accurate knowledge is needed :

(a) *Area*—the size and general character of the province concerned ; whether mainly rural or urban, etc.
(b) *Population*—including the important matter of distribution ; whether mainly congregated in one or more large cities, or in small urban districts ; or in rural areas.
(c) *Industries*—where situated, and of what type—e.g., heavy manual, light manual, agricultural, fishing, etc.
(d) *Communications*—adequate or inadequate, and of what type.
(e) *Medical Services*—whether hospital work is mainly carried out within the province or in a large centre elsewhere ; whether basic health and sanitary services are adequate and well organized.
(f) *Social and Vocational Services*—whether social welfare, care of the disabled and vocational training opportunities exist.
(g) *Industrial opportunity for the disabled*—whether or not there are special agencies assisting in the placement and supervision of disabled workers ; whether unemployment is prevalent, etc.
(h) *Voluntary Agencies*—what voluntary agencies are sharing in the care of the disabled in the province ; whether they only work for a particular group (e.g., a religious group, trade unions, or sufferers from a particular disability) or for all classes of physically handicapped persons ; what aspects of rehabilitation they are concerned with (e.g., medical after-care, social services, vocational training, etc.).
(i) *Co-ordination*—whether there is any co-ordination between the various governmental, communal or private organizations working in the field of rehabilitation in the province, and any integration in the national health, social and industrial services.
(j) *Rehabilitation Centres*—whether a separate Rehabilitation Centre exists in the province or appears to be specially needed.

The following questions were then put to each national team :

1. How should a provincial rehabilitation service be organized ?
2. How should the following groups participate in such a service :
   (*a*) Hospitals in the province,
   (*b*) Social workers,
   (*c*) Vocational training experts,
   (*d*) Employment agencies ?
3. Should a province plan to have one (or more) rehabilitation centres, or to attach rehabilitation services to the existing hospitals ?
4. How should provincial rehabilitation services be financed :
   By the State ?
   By the Provincial or Communal Authorities ?
   By private charity ?
   By Insurance Agencies ?
   By a special rehabilitation organization ?

The teams made their statements in alphabetical order :

Question 1

This question was tackled in an individual way, some countries basing the organization on the existing hospitals and labour exchanges, but adding an industrial rehabilitation and vocational training centre ; others ignored the hospitals and stressed the importance of vocational training centres and of organizing a detection service in order to find out the size of the problem to be tackled. The main principles examined were :

(*a*) Primary medical treatment being given at hospitals ;
(*b*) Secondary or supplementary medical treatment being given at the hospital physical medicine and rehabilitation out-patient department ;
(*c*) The organization of a central rehabilitation and vocational training centre ; and
(*d*) The use of social workers in maintaining a good follow-up system.

Some countries emphasized that the whole of this organization should be under State control, but others

considered that there should be co-operation between the State and the existing voluntary agencies, both charitable and religious.

The problem of co-operation between specialists and general medical practitioners was also examined, the answer to this question probably being the use of doctors specially trained in all the aspects of rehabilitation.

Question 2

(a) *Hospitals.* Not every hospital, it was thought, would have a physical medicine and rehabilitation department and the organization of these departments was of primary importance in any rehabilitation scheme.

(b) *Social Workers.* Social workers, it was considered, should be used both in the hospital and in every stage of the rehabilitation process, their main task being to ensure that there was a good follow-up system throughout the whole organization.

(c) *Vocational Training Experts.* There should be good co-operation between doctors, social workers and vocational training experts. The vocational training specialists should visit patients in hospital as well as guide them in vocational training centres.

(d) *Employment Agencies.* The use of State employment exchanges and voluntary organizations was stressed.

Question 3

It was felt that, provided each hospital had a good physical medicine and rehabilitation department, there should also be a rehabilitation and vocational training centre to serve each group of hospitals. Whether there should be more than one could only be decided on an analysis of the population, geography and social service organization in a particular province.

Question 4

There was no general agreement on how provincial rehabilitation services should be financed. Some teams preferred the whole scheme to be financed by the State ; others, by a division between communal authorities, private charitable agencies and insurance corporations ; others, again, thought the whole financial load should be borne by the insurance agencies ; whilst a fourth group considered it to be the responsibility of the local authorities.

Conclusion

On the whole, there was general agreement that the first problem to be tackled was that of the hospitals and, if the rehabilitation services of the hospitals were well organized and there was a good follow-up system, the number of cases needing vocational training could be reduced to a minimum.

6. The Rôle of the Social Worker in Rehabilitation

The opening statements by Mrs. Sailer and Dr. O'Malley in this discussion have already been summarized in the chapter dealing with "The Adaptation of the Disabled to Their Handicap" (Chapter VIII) and therefore need not be repeated.

The subject was thoroughly discussed by four groups (each composed of two national teams) and subsequently by the whole assembly, which agreed that the function of the social worker in rehabilitation consisted of—

(*a*) Pre-hospital work,
(*b*) Work in hospital,
(*c*) Work in the rehabilitation centre, and
(*d*) Post-hospital work or follow-up.

Pre-hospital work consists chiefly of detection of cases in close collaboration with the public health centre and the other competent authorities.

The polyvalent social worker would be best equipped for this work.

In the hospital, the social worker should work in close collaboration with the doctor and the other team members. The task is to interview patients at the bedside or in her office. The doctor has to decide when the social worker should first contact the patient who is confined to bed, except in cases where the social worker has already had pre-hospital contact with the patients The social worker has also to get in touch with the family, to provide financial assistance where necessary. If the social worker is missing from the hospital, the patient lacks the personal interest which he urgently needs for solving his psychological and family problems.

In the rehabilitation centre, the work done in the hospital is extended and amplified. The social worker has to make the necessary contact with the labour exchange or any appropriate agency to find employment. In Greece, for instance, she has herself to find employment for the patient.

As far as follow-up is concerned, the social worker has to secure help if the disabled person is not satisfied with his job or if he needs further medical assistance and also help him with any personal readjustment problems.

In the discussion, it was also generally agreed that the social worker needs special training, but she should also have the right human approach and understanding of human nature. The social worker is needed both in urban and rural areas, but in the latter case she should also have some knowledge of nursing. A great deal of attention was given to the problem of administrative responsibilities of the social worker and to the fact that this kind of work sometimes exceeds the social services in their proper sense. It was agreed that the social worker should, if possible, have adequate clerical and secretarial help. Some apprehension was expressed lest administrative services should be given instead of social services.

It is important that the social worker should give as much attention to the needs of her clients as to their rights.

7. The Education of Public Opinion

Opening the discussion, Dr. Balme remarked that the present ignorance which existed in most countries as to the rights and potentialities of the disabled arose not so much from muddled thinking as from set opinions which had never been challenged or analysed.

Hence, the government official or trade union officer was only too apt to regard methods of rehabilitation as impracticable and impossible, so long as unemployment existed in the country (without ever stopping to consider why the disabled man should be made to carry the heaviest burden of anyone at such a time, through being deprived of any chance to find a job) ; the physician or surgeon on a hospital staff usually considered that his work stopped at diagnosis and treatment, without regard to the restoration of the patient's functional capacity ; whilst the employers only too often had a fixed idea that disabled people were more prone to illness or accident than the able-bodied, in spite of all statistics to the contrary.

In dealing with the question of enlightening and educating public opinion on any subject, Dr. Balme stated that three questions must first be made clear :

1. What do we want to convey, or in other words, what is the *Subject* ?

2. What groups are we anxious to reach, or the *Target* ?

3. How do we think we can best reach these groups, or the *Technique* ?

These are the questions which the national groups are asked to discuss, but the following suggestions may be of use in doing so :

1. *The Subject* should if possible include :

   (*a*) The rights of the disabled in a modern society ;

   (*b*) The potentialities of the disabled man after good rehabilitation, training and correct placement in employment ;

   (*c*) The gain to the country in morale, self-respect and potential manpower, if rehabilitation services are well established ;

   (*d*) The cost to a country if the disabled form a neglected and resentful class.

2. *The Target*

   The groups which it is most important to reach should include :

   Government officials and legislators, including municipal or communal authorities ;

   Professional leaders, especially University professors and doctors ;

   Hospital Management Committees and medical staff ;

   Insurance officials ;

   Employers ;

   Trade unions officials ;

   The disabled themselves ;

   The general public.

3. *The Technique*

   The importance of using both visual and auditory methods, and the influence of forceful personalities who can speak from personal knowledge and experience.

   Methods to be employed to include :

   Films, pictures and well-illustrated articles ;

   International congresses, conferences, seminars and exhibitions ;

   Articles and personal stories in the Press, particularly in provincial newspapers ;

   Popular articles in journals for the general public ;

   Technical monographs specially written for special groups, such as government officials, doctors, employers, etc. ;

   Discussions in progressive societies—e.g. medical, social and vocational ;

   The granting of fellowships for selected personnel and the organization of group-training courses.

The usual practice of dividing into national groups was found appropriate for discussing this problem.

After an hour and a-half, the group returned and a lively discussion first took place on "The relative merits of days or weeks organized for the collection of funds for the disabled, and distribution of information to the public". This method was approved by the Finns and the Italians. Or the other hand, some countries thought that a more indirect approach might be more appropriate, as they felt that "flag days" and "disabled weeks" might have the opposite effect to that expected.

Towards the end of the meeting the problem was whittled down to one of priorities and, as these priorities would appear to be the crucial problem, they are recorded herewith :

1. It is no good trying to put on a rehabilitation programme for the disabled unless the disabled themselves are educated as to the benefits of rehabilitation. Therefore Priority One is education of the disabled themselves.

2. The various specialists and technicians who deal with the disabled must understand the problems of rehabilitation. Therefore, education should be organized for doctors, nurses, physiotherapists, social workers, occupational therapists, disablement resettlement officers, vocational counsellors and labour and health administrators.

3. Having put the problems of rehabilitation in high light to the people who deal with the disabled, the next step is to educate the public as a whole on the rights of the disabled to work and the needs to allow them to do this work. It was thought that this education of public opinion was the most important of all the problems regarding the dissemination of information on this work.

4. When public opinion had been stimulated, then pressure should be brought to bear on the government of the country to provide these rights and needs, but not until the first three problems had been solved should pressure be brought to bear on the government. It was generally agreed that this scheme was logical—first the disabled, then the therapeutic team, then public opinion and, lastly, pressure on the government.

CHAPTER XVIII

THE REPORTS OF THE NATIONAL TEAMS

Before the termination of the Course, a paper was distributed to every participant, asking for the considered opinion of the eight national teams on the systems of rehabilitation services which had been demonstrated in the three countries visited, and their applicability to conditions in the countries from which the members were respectively drawn. This paper contained a list of questions, and four days were set aside for the preparation of replies by the national teams.

The questions were as follows :

EVALUATION OF THE SCHEME OF REHABILITATION SERVICES

1. In the scheme of rehabilitation, training and employment of the disabled, as represented by the various lectures and demonstrations, visits to institutions and group-discussions of this Course, what items appear to you to have been of the greatest value in developing your own national rehabilitation services ?

2. What do you feel to be the greatest difficulties in establishing a comprehensive service for the disabled, and how would you suggest that they should be overcome ?

3. Which of the following essential factors do you think are most in need of establishing or strengthening in your own country :

(*a*) Better hospital services, in both urban and rural districts ;

(*b*) Medical rehabilitation facilities (physiotherapy, remedial gymnastics, occupational therapy, social welfare, work assessment, etc.) in the hospitals themselves ;

(*c*) The training and employment of :

- (i) Physiotherapists
- (ii) Remedial gymnasts
- (iii) Occupational therapists
- (iv) Social workers
- (v) Vocational counsellors
- (vi) D.R.O.s (Disablement Resettlement Officers).

(*d*) The establishment of post-hospital rehabilitation centres ;

(*e*) Vocational assessment, counselling and training centres ;

(*f*) Employment agencies for the disabled, such as D.R.O. Services or special branches of the Labour Board ;

(*g*) The provision of prostheses, and the establishment of medically-supervised limb-fitting centres ;

(*h*) The provision of technical aids and transport for the disabled ;

(*i*) Better legislation on behalf of the disabled ;

(*j*) Closer liaison between the hospital services and the social and industrial agencies ;

(*k*) Closer co-ordination between the various Ministries concerned with the problems of the disabled, and between State and communal authorities ;

(*l*) Closer co-operation between Government authorities and voluntary agencies ;

(*m*) A better system of disability allowances and pensions, with more emphasis on opportunities for training and employment rather than on financial aid ;

(*n*) Better provision for the disabled people in small rural communities ;

(*o*) The educating of public opinion on the human rights and potentialities of disabled people, and on what can be effected by modern methods of rehabilitation, vocational training and selective placement in suitable employment (open, or sheltered) ;

(*p*) The integration of services for the disabled in the regular health, social and industrial services of the country.

(NOTE : Comments should be confined to those items in the above list which you feel to be absent or weak in your own country's rehabilitation services.)

4. In what way could the United Nations and the Specialized Agencies give further assistance in establishing and developing rehabilitation services for the disabled :

(*a*) In under-developed countries ;

(*b*) In countries possessing good health and social services ?

The reports from the national teams are herewith appended.

AUSTRIAN TEAM:

All the object-lessons and the lectures, demonstrations and discussions of the Training Course on rehabilitation in Sweden, Finland and Denmark have shown clearly that :

(1) In all these countries, whether or not they were affected by the war, the problem of the disabled exists, and, consequently, the problem of rehabilitation ;

(2) This problem extends to all social strata of the population, and to all age-groups and trades and professions ;

(3) Owing to the advance which has taken place within the medical and technical sciences, a solution of the problem has been rendered possible ;

(4) The realization of the idea of rehabilitation is essentially dependent on the co-operation of the competent public and private agencies.

1. The experience gained by the Austrian team during its studies in the countries visited and the observations they have made show that the public authorities in particular, but also the private organizations interested in the problems, take an active part in the implementation of the rehabilitation programme. We have been favourably impressed by the numerous establishments and institutions, some of which have come into existence only recently and some of which are only being developed.

Each of the institutions we have been shown fulfils a certain purpose in the framework of the whole scheme of rehabilitation services, regardless of whether it has been set up, and is being run, by private or public initiative. The members of the Austrian team agree to the view, expressed time and again during the progress of the Course, that it is possible to solve the tasks of rehabilitation only by team-work, which must extend through all the stages of the rehabilitation work. We can subscribe to the view which we found expressed in all the countries visited : that the ultimate aim of rehabilitation is to provide work, "to make the disabled independent in a normal community".

It appears to us to be of special importance to develop such prophylactic and preventive measures as care of mother and child, school medical service, school dental clinics, medical examinations of apprentices, mass examinations, a medical service in industrial concerns, convalescent homes, compulsory insurance against sickness and accidents, making medical attention and medicines available free of charge, the object being to prevent the development of permanent damage to health. The Government Factory Inspection Service and factory hygiene play an important rôle in the prevention of illness. We venture to express that, as regards prophylactic measures, Austria has reached a very high standard. The Austrian team was particularly impressed by the introduction by the Swedish State of a "recovery leave" for housewives—a measure which is of the greatest importance for national health.

The full effect of all rehabilitation measures depends very extensively on early recognition and early treatment. To attain this object it is of special importance that a correct diagnosis be made and the proper treatment instituted, which, direct from the outset, should have the restoration of the capacity for work in view. This medical care, as has been abundantly demonstrated during the progress of the Course, necessitates the establishment of special institutions and specialized departments.

The chief point in the development of our own national rehabilitation service, according to the experience we have gained during this Course, appears to be the establishment of the institutions necessary for the implementation of the rehabilitation service. These institutions include rehabilitation centres, sheltered workshops, training workshops, industrial training centres, vocational training centres as well as residential elementary schools for disabled children.

The early understanding of the whole personality of the handicapped person, to which the doctor, the nursing and medical staff, the social worker, the vocational counsellor and psychologists will have to contribute, is of the greatest importance. In this work it is of significance for the subsequent course of the rehabilitation, especially in cases where a change of occupation must be anticipated, to have the vocational talent established at an early date. Placement and resettlement crown the efforts of the unbroken line of rehabilitation measures. According to the importance of these services, a special organization should assume the responsibility for this work.

2. The establishment of rehabilitation services is closely bound up with the specific national conditions obtaining in each country. We therefore feel that we are in a position to deal only with the difficulties encountered in our country.

Because of Austria's financial position it is not possible to employ all the available manpower. Since a favourable financial position essentially facilitates procuring the necessary funds, and since full employment makes it easier to attract disabled persons, the general economic situation in Austria to-day places considerable obstacles in the way of the development of rehabilitation.

Because of the historical development of compulsory insurance and Public Assistance in Austria, the problem of rehabilitation was not given sufficient attention. At the same time, with the exception of the accident insurance, the question as to which would be the proper forum to decide applications, was not given sufficient attention, and the result is reflected in the excessively great number of pensioners.

Many medical and social establishments, whose participation in a common system of rehabilitation is essential, have refused to co-operate on the plea of the limitation legislation has placed on the task.

Great circles of the population, including the medical profession, are not sufficiently acquainted with important aspects of social medicine and the idea of rehabilitation.

In addition to the consideration of the abovementioned points by the competent authorities, an educational campaign on a wide basis is essential to remove existing difficulties.

3. (*a*) The havoc wrought by the war in the development of the hospital service has been only partly overcome in Austria. It may be mentioned in particular that such institutions as the Rheuma Foundation Centre in Heinola or the Invalid Foundation in Helsinki do not exist in Austria. The medical establishments are partly antiquated, and often the condition of the buildings is not up to the mark of modern standards.

(*b*) Physiotherapy in the Austrian hospitals is at a very high level. The facilities for remedial gymnastics, occupational therapy and social welfare work in hospitals have not been sufficiently developed.

In Austria, vocational guidance and the employment services are exclusively in the hands of the Government.

These agencies fully cover the need. It should, however, be provided by law that vocational counsellors and the placement services should belong to the regular rehabilitation teams of the hospitals, and that they should be entitled to hold "consultations" in the institutions.

(*c*) (i and ii) Austria considers that a common training institution for physiotherapists and remedial gymnasts is preferable to separate training. Bringing this category of institution up to date, and developing it further, is essential.

(*c*) (iv) Austria possesses excellent training centres for social workers, but the use of social workers in hospitals, industrial concerns and social insurance institutions has been quite insufficiently developed.

(*c*) (v, vi) The unfavourable situation in the labour market makes the placement of labour in Austria difficult. Following clinical recovery, an interruption of the rehabilitation frequently sets in. This has an unfavourable effect on the working morale and jeopardizes the successful outcome of the rehabilitation measures. For this reason the establishment of vocational assessment and counselling and training centres is of special importance. These workshops would be able partly to pay their way by the sale of their products.

Also the number of training workshops would have to be increased in Austria, and, to undertake this work, a system would be preferable which included public training workshops as well as private training possibilities.

There is in Austria a very perceptible shortage of vocational training facilities for young handicapped persons.

In the countries visited, placing of handicapped persons is facilitated by the fact that people have the right to pursue any trade they like. In Austria, however, matters are rendered difficult for the exercise of small undertakings by the legislation and restrictions in force, according to which people can set up in independent business only if special conditions are fulfilled.

(*d*) Post-hospital rehabilitation centres do not exist in Austria.

Their establishment is essential, however.

(*f*) At all employment service offices there are counsellors entrusted with the task of guiding and placing disabled persons. This system has proved very efficient.

(*h*) Provisions should be adopted, making it possible for handicapped persons to obtain subsidies towards the purchase of motorized vehicles if their work makes this necessary.

(*i*) Austria needs a fundamental and uniform legislation for the rehabilitation of disabled persons.

(*j*) Closer liaison between the hospital services and the social industrial agencies is necessary.

(*k*) The absence of closer co-operation between the various Ministries concerned with the problems of the disabled, and between the State and the communal authorities, is an essential hindrance to the implementation of a complete rehabilitation service.

(*l*) In the rehabilitation work, more emphasis should be placed on the co-ordination between Governmental authorities and voluntary agencies.

(*m*) In the legislation, the main stress should be laid on the possibilities for rehabilitation. The award of a pension should depend on the decision of a central board.

(*n*) Rehabilitation facilities in rural communities will have to be provided.

(*o*) As already touched upon, it is necessary to educate public opinion on human rights and potentialities of disabled people, and on what can be effected by modern methods of rehabilitation, vocational training and selective placement in suitable employment.

(*p*) The integration of services for the disabled in the regular health, social and industrial services of the country is necessary.

Consideration should be give to the easiest way to carry through the establishment of a fund to which existing Austrian health institutions, the social welfare services and the labour services, as well as the voluntary agencies, would contribute ; the regulations of this fund should provide for the co-operation and financing of the rehabilitation services.

4. The ILO and the WHO should submit a recommendation to the governments of the member States, in which attention is drawn to the necessity for establishing a rehabilitation service.

To educate public opinion still further, literature on rehabilitation should be made available in the German language.

DANISH TEAM :

We consider as handicapped the group of fellow-citizens of working age who, owing to special causes traceable in part to the physical or mental condition of the persons concerned, in part to external conditions affecting them in particular, have special difficulties in keeping or finding employment. By rehabilitation of the handicapped is understood the contribution aiming ultimately at making the persons concerned capable of seeking work on terms of equality with other fellow-citizens. Thus, the contribution concerned tends to make them independent members of the normal community.

It is difficult to estimate the number of handicapped persons in any country, the number being regulated by the employment opportunities. In the case of full employment, no small number of persons who would be regarded as handicapped under less favourable conditions will be able to find employment without great difficulties.

The means applied for achieving the end are a combination of medical, social and vocational forces.

The above definition of the concept of handicapped covers physically as well as mentally and socially handicapped. The reason why, in this report, we discuss the conditions of the physically handicapped only is that the Course relates only to that group. Besides, we are aware of the importance of measures being taken already at the age of childhood ; also this question, however, we shall have to leave out, the Course relating only to the rehabilitation of adult persons.

We are asked what items appear to us to have been of the greatest value in the development of our own rehabilitation services :

We noticed the following services :

1. *Organization of employment services in Sweden*

In that country, the employment services are centralized in the public employment service. Private employment service is a practically unknown concept. Employment services for handicapped have in Sweden been developed in each "län", so that this special form of employment services covers the entire country. Further, we noticed that the Employment Market Department is authorized to arrange and pay for the vocational training of the handicapped and to maintain him and his family during the period of training.

Training facilities in Sweden and Finland

(*a*) We noticed the relatively short courses for vocational training of disabled persons, which were generally arranged in accordance with the demand of the employment market. These short courses were of value, in particular, in the training and retraining of the older man-power.

(*b*) In Sweden, we noticed, moreover, the co-operation of industry in the provision of suitable measures for training and habituation to work. We noticed that the handicapped are largely trained for industrial work proper.

(*c*) We noticed also the large contribution on the part of the Employment Market Department in making local authorities and private employers interested in the establishment of suitable workshops.

(*d*) It was our impression that, through the contribution of the Employment Market Department and the local authorities in Sweden, a large number of employment opportunities was obtained for the handicapped, more particularly in industry and handicraft.

(*e*) In Finland, we noticed in particular the modern, industrial equipment of the training workshops, and that the efforts to produce an atmosphere similar to that of a factory had often been successful.

Evaluation of working capacity

We noticed the Finnish and Swedish scientific approach to the evaluation of the physical working capacity of a person, and to the requirements made in different groups of occupation.

In this connection, we are thinking of the work and the demonstrations on the basis of experiment which took place at the Central Institute of Gymnastics in Stockholm and at the Institute of Occupational Health in Finland, and, besides, of the clinical work that is being done at the Karolinska Sjukhuset (hospital) in Stockholm.

As regards the Norwegian contribution for the evaluation of the working capacity, we noticed the co-ordinated team-work at the State Rehabilitation Centre in Oslo.

Rehabilitation and compensation

In Finland, we noticed the mentality according to which rehabilitation seems to be of primary importance in the considerations of a disabled person concerning his future opportunities.

2. We are further asked what we feel to be the greatest difficulties in establishing a comprehensive service for the disabled, and how we would suggest that they should be overcome.

The individual parts of a rehabilitation scheme naturally come under various major activities in the fields of social welfare or health. The medical treatment of the disabled, for example, is a natural part

of the public health services of the country, and the employment and placement of the handicapped should be viewed in connection with the general employment problems. This fact renders it difficult to make a comprehensive approach to the problem.

In several countries, rehabilitation has been taken up for consideration, in legislation as well as in practice, as required. This has generally resulted in the fact that a number of institutions and bodies which are partly independent of one another have come into existence ; similarly, the legislation in this special field very oftens lacks the stamp of unity.

As a result of the development referred to above, certain fields of rehabilitation have either not been taken up for consideration at all or have been taken up only in part, and there have been several gaps.

The shortage of trained specialized personnel within different fields (physical medicine, physiotherapy, social counselling, vocational guidance, D.R.O., etc.) renders the work difficult. The difficulty is the absence of training facilities in the country concerned or the inadequate number of trained persons.

Public opinion. The attitude of the population to the problems of rehabilitation is of vital importance in the solution of the problems.

The attitude to the problems of the disabled persons themselves.

The question of full employment.

The conditions of the employment market, including its organization and the mobility of labour.

We were asked how to overcome these difficulties, and we shall briefly make the following recommendation. In this connection, however, it should be considered that we have had but a very short time in which to consider the problems, and that, in particular, it has been impossible to undertake a more thorough investigation of the underlying questions of fundamental as well as of practical importance. We shall therefore have to make reservations in respect of the following recommendation.

We are of the opinion that a co-ordination at the highest level (Departments of State, public and private agencies, the central organizations of the employment market, organizations of disabled persons, medical organizations, etc.) as well as a co-ordination between the different levels will be of vital importance, and that in this way it will be possible to achieve a joint contribution in the field and avoid overlapping and gaps.

The establishment of the necessary number of schools, courses, etc., will be capable of making good this shortage.

Influence on public opinion, so as to promote the understanding of the disabled persons in the efforts to rehabilitate them and to place them in the employment market, may of course be done in a variety of ways. We shall here mention that influence on the employers' and workers' organizations, medical officers, social advisers, the disabled persons' own organizations, etc. The methods of choice will, by the nature of the case, be the daily Press, technical journals, the radio and the different educational institutions. Consideration should be given to the fact, however, that the propaganda for a higher degree of understanding of the employment problems of the handicapped should be co-ordinated with a view to avoiding competition and overlapping ; similarly, the propaganda must keep pace with the facilities existing at any time in the community for training, re-training and placing the persons concerned. If the propaganda sets in before the machinery is available, the result is likely to be a disappointment for the handicapped as well as for the employers.

A number of circumstances are involved here, and we wish to point out that the attitude of the handicapped must of course depend on the training and employment opportunities offered to them by the community. Besides, we should like to stress the importance of an early evaluation, after the disablement has been ascertained, the opportunities of employment for the patient and of a utilization of these opportunities. It will probably be of importance that efforts are taken to make the patient accept his present condition, this being the first step towards a realistic evaluation of his opportunities.

At the present time, we are not in a position to give an opinion on the important question concerning the conditions governing the right to pension or other compensation in respect of sickness or accident or the amount of that benefit ; however, we wish to call attention to the fact that the social policy of a country in this field should be laid down with due regard to the problems of rehabilitation.

The question of full employment, which is of essential importance for the placement of the handicapped, is dependent on the economic situation and policy of the country and, in this report, we must abstain from making recommendations in that respect.

In countries where the employment market is highly organized, there will often be difficulties in the placement of the handicapped. As will be known, the collective agreements concluded between employers' and workers' organizations contain a number of provisions concerning wages and conditions of work, which in the individual case may impede the placement of the handicapped. Where there are sharp lines of demarcation as between the individual trades, and where transfer from one trade to another cannot take place, the disabled person will often meet with special difficulties.

Efforts should be made, by agreements between the central organizations, to introduce provisions for the elimination of these special obstacles.

3. We are asked which of the following essential factors we think are most in need of being established or strengthened in our country. We shall in particular mention the following facts, the numbering below having reference to the numbering of "Notes on the preparation of reports for the final week of the Course" dated 20 October 1952.

(*b*) At our hospitals a better organization of physical medicine is needed. We have approved specialists in physical medicine, but only few hospitals have a department or clinic of physical medicine directed by such a specialist.

The number of social workers at our general hospitals is insufficient, and they should be more closely connected with the employment services for the handicapped than is the case at the present time.

With a view to strengthening the rehabilitation facilities at the hospitals it will be of importance if some form of co-operation might be established between the hospital administration and the chief medical officers. In this report we shall not point out the ways to be followed, but confine ourselves to calling attention to the importance of team-work in the hospitals.

In the case of the reorganization recommended, it will be possible, to a greater extent than is the case now, to make a certain work-assessment ; for the time being, however, we are not in a position to decide on the attitude to adopt to the extent to which this should be done and to the procedure to be employed.

(*c*) (iv) We would recommend that instruction in rehabilitation be included in the curriculum of the School of Social Work.

(vi) As regards D.R.O.s, we consider, in the light of our preliminary discussions, that the persons concerned should receive practical training in ordinary employment offices and, in addition, attend certain supplementary theoretical courses.

(*d*) The extent to which "rehabilitation centres" are needed will depend on the rehabilitation activities of the hospitals—in Copenhagen, also, of the clinics of physiotherapy run by the health insurance funds—and on the extent of the specialized rehabilitation services for cripples, blind persons, neurotics, etc.

(*e*) Training workshops should probably be established in different parts of the country, as well as one or two larger workshops with facilities for scientific research. In these workshops, assessment, in addition to training of disabled persons, may take place.

Besides, we wish to point out the possibility of holding more individual, short courses which are not connected with the workshop training, as required.

As far as counselling services are concerned, see (*f*).

(*f*) In Denmark, seven offices have been established by way of experiment. It is considered expedient that the entire country be covered by these special offices.

(*j*) As regards this question, reference is made to (*b*) above ; besides, we wish to stress the importance of establishing a body capable of co-ordinating the services concerned. Medical practitioners should be included in this co-operation in some way or other.

(*k*), (*m*), (*o*) and (*p*). See the observations above in this report.

We wish to stress the importance of establishing sheltered workshops and of developing the home work.

4. In our opinion, the United Nations and the Specialized Agencies could assist the two categories of countries by making funds available for fellowships, by sending out experts, by holding seminars, etc., and by distributing literature within the field concerned.

As regards countries of category (*b*), the expert assistance may be limited to very special fields.

FINNISH TEAM :

1. The forms of social activity in Finland have developed independently of one another, at different times, and according to different lines of direction. Many of these forms of activity (medical care, vocational training, employment exchange) have some tasks in rehabilitation. However, there does not exist such a functional whole as is meant by the word "REHABILITATION". The measures in question are taken without any organic contact with one another, and in fields of activity of various central authorities. It is possible, however, at least theoretically, to build up such a chain of measures as would include all stages of the rehabilitation process, from the hospital to employment.

The main value of the Course has been that the new basic philosophy of rehabilitation has been presented in an excellent way, so that the conception of rehabilitation as a special basic branch of social activities has become clear to us.

The second general value of the Course is that the members of the team have had an opportunity of seeing and studying the work of other members and their main problems.

Thirdly, we want to mention that, in spite of the national differences, we always have much to learn from the other countries for the solving of our own problems. And thus we have noticed the following circumstances which will be of the greatest value when developing the rehabilitation activity in Finland.

Sweden : The stimulating trend to build up a bridge between the medical and employment services (hospital rehabilitation department, work clinic and prevocational training, combined with thorough vocational counselling) ;

Very good examples of systematized sheltered and semi-sheltered workshops in close co-operation with employment services ;

The labour market organization and the placement services for the disabled integrated in it ;

Examples of measures undertaken by employers in order to facilitate the return to work of their own workers handicapped by accidents or sickness ;

The very good general health, social and employment services as the necessary basis for rehabilitation services.

Norway : The State Rehabilitation Centre, Oslo, as an example of an effective, centralized activity for diagnosing and counselling.

Denmark : Very-well-developed specialized services for different groups of disabled (polio, spastics, hard-of-hearing).

2. The greatest difficulties in establishing a comprehensive service for the disabled are, in our opinion :

The present difficult economic situation in our country ;

The lack of expert knowledge and plans concerning special problems of rehabilitation ;

The existence of special authorities for each special branch of governmental measures without clear borderlines, nobody having responsibility for the total scheme of rehabilitation ;

The lack of satisfactory co-ordination, co-operation and division of labour in the rehabilitation field.

Perhaps the most essential difficulty is, however, that the value and importance of rehabilitation work is not known or fully appreciated :

by the leading organs and the key-position officials ;

by public opinion ;

by various large social and political associations, e.g., labour movement ;

by the workers on specialized rehabilitation activity as doctors, in spite of their importance in the whole work ;

by the disabled themselves, although it must be mentioned that the organizations representing disabled persons themselves have approved a very positive opinion towards rehabilitation.

In order to overcome these difficulties, we shall only mention the education of various specialists in medical, social and employment fields to understand and make use of the main principles of rehabilitation. Furthermore, public opinion should also be enlightened and pertinent information given.

But because the development of rehabilitation in Finland is, however, yet at its initial stage, a comprehensive, fully co-ordinated rehabilitation scheme seems not yet to be possible to realize. We have been obliged to start with very specialized and limited methods and with the most positive classes of disabled persons, and now have to continue gradually towards the goal of a comprehensive rehabilitation system.

3. The following essential factors are most in need of being established and strengthened in our country :

(*a*) More beds are necessary both in general and specialized hospitals and wards. The comprehensive plan for so-called central hospitals should be fulfilled, yet some of them are already built up. Especially is there a considerable shortage of beds for orthopædic treatment. Therefore the plans for providing them should be realized in the nearest future.

(*b*) Also in many of the greatest hospitals there is a lack of medical rehabilitation facilities (physiotherapy, occupational therapy, social work). The departments in our hospitals for physiotherapy and occupational therapy are at present not large enough to cope with the stressing demands made upon them. Some plans for progress have been made, and for TB patients these are now being carried out. There are also plans for establishing a work-clinic in Helsinki.

(*c*) The specialized training of the following experts is in need of being organized :

occupational therapists,
vocational counsellors,
prosthesis-makers.

In need of strengthening is particularly the training of :

specialized medical doctors,
social workers,
vocational training instructors.

We would particularly stress that there are until now very few employment facilities (posts) in our hospitals for the specialists mentioned above.

The question of employment services for the handicapped is in its early stage of development. Thus the question of the training and employment of D.R.O.s is now coming to the front for the first time.

(*d*) For cases with a long convalescence (TB, arthritis) there is an existing need of post-hospital rehabilitation facilities. At present the orthopædic cases have some possibilities, but in the future some strengthening is necessary.

(*e*) At present there do not seem to be possibilities for establishing new centres for vocational assessment and guidance, but this very important, and in our country almost completely lacking, work should be done by developing the work of those institutions we already have. We hope that, e.g., the Institute of Occupational Health could develop its activities for these purposes.

The system of training for the handicapped is in need of some reorganizing.

Normal training facilities should be used in those cases where training in a special centre is not especially

motivated. Nevertheless, the special centres for disabled have an important rôle in our schemes, because there is a considerable shortage of training facilities for normal youth.

The many centres for the vocational training of cripples could perhaps be developed for training of other groups of disabled persons, too.

For those who are not in need of, or are not suitable for, comprehensive vocational training for skilled occupations, there should be short-term training for semi-skilled manual work.

(*f*) As mentioned above, the employment services are under consideration, partly in connection with the development of public employment service and partly within the care of disabled persons. The strengthening of this activity is very necessary indeed.

(*g*) The quality of prostheses is not good enough, the plans for standardizing their production not yet realized. The various factories should be integrated in the national rehabilitation system and placed under sufficient medical control.

(*i*) The most essential weakness in the legislation for the disabled should be eliminated :

In establishing a national health insurance, especially concerning payment for medical treatment ;

In developing the present legislative care of disabled persons, which is rather comprehensive but at present limited to only stable disabilities.

(*m*) In the schemes of disability allowances and pensions, the principle of rehabilitation is accepted, but perhaps not strict enough in all cases, and in their practical fulfilment it has not always been possible to follow these principles satisfactorily.

(*j*), (*k*), (*l*), (*n*). Because the social activities of Finnish society are not developed enough to build up a comprehensive social system and because of the present economic situation, a well-balanced and co-ordinated scheme of rehabilitation, and its combination with other forms of social activity, has not been possible. We hope that the development would lead towards this goal.

4. The United Nations and the Specialized Agencies have in our opinion especially the following four important fields in which to develop rehabilitation services :

Supporting of scientific research work,

Information,

Supporting study and special training,

Encouraging international co-operation.

For this purpose, e.g., the following activities are of great value :

Publishing special literature (scientific, technical manuals, periodicals, etc.) ;

Assistance for the translating of those publications ;

Preparation of a "rehabilitation dictionary" or encyclopaedia ;

Encouraging establishment of a central library in every country, where all special literature on rehabilitation should be available ;

Continuing and developing schemes of fellowships and training courses.

GREEK TEAM :

1. Reviewing the most valuable material which we have had the opportunity to study during our two months' training course in the Scandinavian countries, we attempt in the following lines to deal with the items which we consider to be of the greatest importance in developing the existing rehabilitation programme of our country.

The relative lack of co-operation and co-ordination of State services, institutions, organizations, agencies concerned with the rehabilitation of the disabled, has, we feel, proved the necessity for establishing a Central Service, which will act as a co-ordinating link between all the services concerned, re-enforcing the co-operation amongst them all and the activities of each one in particular.

We therefore consider that, in Greece, the Ministry of Social Welfare, in which the Public Health Services are included, should take the lead in that field, in close co-operation with the Ministries of Labour, Education, Commerce and Industry, on subjects concerned with vocational training, and with the Ministry of National Defence for all subjects dealing with war-disabled.

To the communal authorities should be delegated a greater responsibility for the following-up services for the disabled, by the establishment of special boards or offices.

We completely agree that rehabilitation at its early stage should start immediately in the hospital, particularly with the functioning of a rehabilitation team.

The continuity of the rehabilitation process is essential and should form the basis of the development of the rehabilitation scheme in our country.

Besides the above, all competent services of welfare, health and industry should be so organized as to prevent disability either in hospitals or in all working places and factories, by avoiding industrial accidents and vocational diseases.

The readaptation, assessment, readjustment, and resettlement of disabled persons are amongst the most important links in the whole chain of rehabilitation services.

The psychological approach is of the utmost importance. Psychological reactions, frustration of the character, changes of the personality and of the moral status, due to disability, should be treated with sympathy and understanding, and in a manner both

scientifically and practically suited to each individual case, in order to obtain the ready co-operation of the disabled person himself in the procedure of his rehabilitation. It will be a great help if a happy family atmosphere can be created in all centres and institutions dealing with rehabilitation.

We feel that, in order to obtain successful vocational rehabilitation, as many trades and professions as possible should be at the disposal of the vocational training programme.

We consider that it is preferable to train and educate handicapped people in normal vocational schools. When, however, that is not possible, as in specialized cases, training facilities in special centres and schools should be at their disposal.

Sheltered workshops and domiciliary work are essential for severe cases unable to work under normal conditions.

The establishment of special shops for the sale of articles constructed by disabled persons of all categories during their training period, in sheltered workshops or in their homes, is necessary.

As concerns the employment of the disabled, the quota system is of great assistance, especially in our country, where unemployment exists on a rather large scale.

We suggest that a special service concerned with scientific research, studies dealing with the problems of rehabilitation and statistics, should be introduced as soon as possible within the Central Rehabilitation Service of the Ministry of Welfare.

In the following paragraphs we deal in greater detail with the principal difficulties and needs existing in the present rehabilitation scheme in Greece and our suggestions, in connection with the above, as to the best means of overcoming them.

2. The greatest difficulties in establishing a comprehensive service for the disabled in our country are the following :

The distinction between war and civilian disabled. Efforts should be made to face the rehabilitation problems of both categories in a comprehensive manner under the co-ordination of the Central Service of the Ministry of Welfare and with the co-operation of the civilian and military authorities concerned.

The shortage of sufficient trained personnel, concerning the training of which we refer below.

The difficulty of employing disabled persons in the open labour market owing to unemployment. For that reason, we consider it preferable that the vocational rehabilitation scheme in Greece should tend, as it already does, to prepare our disabled more as artisans or in free professions, because of the greater facility to obtain work in their home districts.

Tools and primary financial support should be provided in such cases. We also consider that, from the psychological point of view of the disabled person, especially the severely disabled, it is preferable to work under such conditions. In cases when they are capable of working under normal conditions—i.e., in productive work on the labour market—the quota system should be extended in favour of the civilian disabled, as is already in existence for war veterans.

Better legislation is required in favour of the disabled.

The care of the disabled should be extended to all categories of civilian disabled providing full rehabilitation for non-insured indigent civilians and war veterans at the expense of the State, and for insured civilian employees and workers at the expense of the social insurance agencies concerned.

The lack of a sufficient number of special Rehabilitation Centres and the inadequacy of equipment.

The restricted financial means of our country to-day do not allow us to solve this problem in a satisfactory manner, as is also the case in the development of the rehabilitation scheme in Greece as a whole.

3. We feel that the following are the most essential factors for establishing and strengthening the rehabilitation scheme already existing in our country.

(*a*) More hospitals, polyclinics and public health centres are required, according to the density of the population, chiefly in rural areas.

(*b*) In order to introduce rehabilitation work into the hospitals it is necessary to provide adequate rehabilitation teams and also the proper equipment.

(*c*) (i, ii, iii) Schools for the training of physiotherapists, remedial gymnasts and occupational therapists are needed.

(*c*) (iv) The two already existing schools for Social Workers require a supplementary training programme on rehabilitation, chiefly dealing with the rôle of the social worker from the detection of cases throughout the whole process, including following-up work in the rehabilitation field.

Training facilities for specialized teachers and instructors for the blind, deaf and dumb, spastics, etc.

(*c*) (v, vi) Special training for Vocational Counsellors and of employers of the offices of the Labour Exchange in the work of the D.R.O.s.

To introduce the subject of rehabilitation into the field of studies of the Greek universities as also into the School of Nursing. The opportunity should be given also to nurses already in service in hospitals and centres to receive supplementary training on that subject.

(*d*) To establish specialized rehabilitation centres for disabilities requiring post-hospital rehabilitation, such as amputees, paraplegics, blind, deaf and dumb, etc.

In such cases we consider that the complete process of post-hospital rehabilitation, as well as vocational training should be included.

In cases, however, such as leprosy, mental diseases, pulmonary TB, TB of the bones, etc., the whole procedure of rehabilitation, including vocational training and sheltered workshops, should be performed within the hospital or the sanatorium itself.

We feel that such an arrangement would be the most suitable from a scientific, psychological and financial point of view.

(*f*) Labour Exchange offices should make the necessary provision for establishing a special service to undertake the placement of disabled persons.

In case of lack of efficiency on behalf of the Labour Exchanges, the Social Worker of the district should try to supplement this need.

(*h*) The provision of technical aids and transport for the disabled should be extended so as to include the civilian disabled, besides the war-disabled, of Greece.

(*j*) A closer co-operation between hospital services and social and industrial agencies will be obtained as soon as each of the above-mentioned has understood the real importance of this co-operation, not only for the rehabilitation of disabled but for the return to normal living and working conditions of patients still under treatment or discharged from hospital after their recovery.

(*k*) The co-operation of the State services concerned with communal authorities needs to be strengthened in the field of social work as regards rehabilitation, taking into consideration that the communal authorities in Greece are unable to co-operate financially in the rehabilitation scheme.

(*l*) The co-operation between the State and voluntary agencies should be developed, bearing in mind, however, that the co-ordination and control should be effected by the State, whether the agency's activities are subsidized by the State or not.

The field of activity of such agencies should be partially defined by the State, so as to avoid the overlapping of the activities of the various organizations.

(*m*) As regards disability allowances and pensions, those to-day are provided to war-disabled and to insured civilian disabled. In order to encourage the co-operation of severely handicapped persons, it would be advisable to increase their pensions if they are working. We consider that the State would benefit from the fact that they will become productive units.

(*n*) We believe that better care for disabled persons in rural areas can be obtained by the extension of the Social Insurance System in favour of that portion of the population.

(*o*) The enlightening of public opinion, as also of certain State services and private agencies, should be activated, educating them on the human rights and potentialities of disabled persons.

This campaign should be guided by the special publicity service in the Ministry of Welfare and should be introduced into all levels of society.

(*p*) Recommendations should be made to all regular health, social and industrial services of our country, to include in their activities all the stages of rehabilitation, so as to enable the disabled person to return successfully to his normal life in the community.

Over and above, due measures for preventing disability should be taken, as that is of the utmost importance.

4. We feel that the United Nations and the Specialized Agencies, within the framework of international society in which they move, could continue the following activities on a larger scale :

International training courses for personnel in countries which have an insufficiency in such.

Provision of the proper and adequate equipment.

The enlightening, on a larger scale, of international public opinion and of the governments concerned.

The regular notification to all concerned of the most important research work, investigations and studies made in the field of rehabilitation.

Countries possessing considerably well-organized public health and social services should continue to offer their assistance to the United Nations and other organizations in attaining the above purpose, by undertaking the greater part of the load of research and international training courses, special notifications, etc., thus offering their services to their fellow-men of the international society, having both the need and the right to rehabilitation on the grounds of the general principles of human rights.

ITALIAN TEAM :

The organization of a comprehensive rehabilitation service in Italy is a very hard problem to solve and extremely complex in its various aspects.

A general consideration of the many problems presented in the numerous lectures and the recalling to our mind of all the visits to the various institutions dealing with the problem of disabled have not shown to us a very deep difference between what we have heard and seen and what is done in our institutions. Nevertheless, it was evident that in our country the assistance to the physically and mentally disabled is not done on so large a scale.

A further and more accurate analysis of the various links of the chain of the rehabilitation services has convinced us, however, that many things have to be established or strengthened in our country so as to reach a very good efficiency. For a further development we consider of great importance :

(1) Appropriate legislation for the re-education of disabled ;

(2) A better co-ordination and co-operation among the various agencies interested in this problem and between these and the State.

We must say that both these items were given the right consideration and value in the three countries we have visited.

We may also say that we should establish more rehabilitation centres, create schools for physiotherapists and use the social workers on a large scale.

It is of the greatest importance for the purpose of establishing a complete and efficient rehabilitation service that public opinion should be interested in this very important problem and this interest should be reached through an appropriate propaganda : Press, radio, films, conferences and discussions to be held in the main industrial and agricultural centres. All these modern means of education must give us the possibility to make the population understand the humanitarian, social and economical value of the rehabilitation of the handicapped.

We must also make others convinced that it is the right and the duty on behalf of the disabled to participate and contribute with his work to the productiveness of the nation. We realize that this task of ours is not a very easy one and that this propaganda should be directed not only to the citizens in general but also to the State and the agencies interested in the problem.

Among other difficulties we must mention how hard it is to achieve a good co-ordination and co-operation between the State and the agencies working for the disabled.

Studying through this course we agree on the essentiality and difficulty of "team work" among all the experts who are asked to give their aid in the various stages of the process of rehabilitation.

It is obvious that many difficulties vary from one country to another. For instance, a poor legislation for the purpose is bound to hinder all the process of rehabilitation, and this may also be said as regards unemployment which, as in our country, may reach high proportions. When the labour market is satisfied, most of the people may have the false conception that is not convenient to bring back to work the disabled on account of the high cost which the education itself would involve. This false conception may also be extended to the idea that the disabled is less efficient than the healthy man of whom there is a large possibility of choice on the labour market.

Sometimes the behaviour of the disabled himself represents a very serious difficulty. We have noticed that he is not always conscious of his duty to try to get himself independent in a normal life. In these cases, he is satisfied to receive a subsidy and if this is not sufficient for his needs he has recourse to other expedients and never thinks about going back to work.

Insufficient financial possibilities represent a wall which cannot be easily demolished, especially in those countries where the taxpayer is already asked for heavy contributions ; and here we find that every new initiative which, by necessity, brings with it new financial efforts is not well accepted by the contributors.

The detailed study of the many necessities for a comprehensive rehabilitation service has convinced us that in our country we should :

(*a*) Establish regular training and employment for physiotherapists, occupational therapists and vocational counsellors. Employment agencies for disabled and better provisions for small rural communities should be created.

(*b*) Strengthen : the medical rehabilitation facilities, the legislation on behalf of disabled, the liaison between the hospital services and the social and industrial agencies, the co-ordination between ministries and between the State and communal authorities, and the co-operation between Government authorities and voluntary agencies.

(*c*) Increase the opportunities for training and employment of disabled.

(*d*) More post-hospital rehabilitation centres should be created, while public opinion should be educated to a larger extent about these problems.

(*e*) It is also our opinion that the services for disabled should be integrated in the regular health, social and industrial services.

We think that the rehabilitation service must be a State service and by this we mean that the service itself is one of the specific social functions of the State.

The legislation on behalf of disabled should promote :

(*a*) The institution of a central office attached to the Ministry of Labour and Social Affairs and the creation of other similar offices attached to the local branches of the same Ministry. The main task of these offices should be the re-education and the employment of the disabled.

(*b*) A special register for all those disabled who wish to be registered and re-educated.

(*c*) The erection of an adequate number of rehabilitation centres for the disabled.

This Act should give the possibility of following-up the disabled from the very moment he goes to the hospital or is registered to the day he is brought back to work.

As regards the under-developed countries, the United Nations' assistance should be directed :

(*a*) To promote further education of public opinion through an adequate propaganda—confe-

rences, Press, etc. In these conferences the moral, social and economic value of rehabilitation must be represented to the Government, and must convince agencies and individuals working in this field.

(*b*) To the education of experts through grants, seminars and group-training courses, to be held in those countries where these services are mostly developed.

(*c*) To the institution of a model centre of rehabilitation with the specific purpose of giving a practical demonstration and showing how useful it is to have a comprehensive rehabilitation service.

(*d*) To send experts to the under-developed countries as counsellors to the government and to the agencies interested in this field.

(*e*) To recommend to single governments an appropriate legislation on behalf of the disabled.

In countries where social and health services are well developed, the task of the United Nations is obviously facilitated. Here the United Nations should see that the governments of these countries consider the problem of rehabilitation in its proper value and emphasize the social and economic importance of this problem.

NETHERLANDS TEAM :

Introduction.—The Group-training Course on Rehabilitation of the Adult Disabled gave a very good insight into the whole problem of rehabilitation.

It was stressed at the various lectures that the closest co-operation between the specialists in this field and the patient must be achieved.

All members of the team are of equal importance and each of them has to play his part in order to gain their purpose—i.e., to bring the patient back into normal life.

An exclusively physical handicap is quite unthinkable except in relatively minor conditions.

The psychological, social and economic sides of the case have at the same time to be taken into consideration.

The task of the community with regard to the disabled is to take all measures to help this group of people to lead a normal existence as far as possible, notwithstanding their handicap, with the further aim, to gain as complete as possible social and economic independence.

The most effective way of helping the patient is to enable him to help himself. If these plans are to be accomplished, a good rehabilitation scheme is absolutely necessary. A process of rehabilitation aims at reducing the handicap as much as possible and helping the patient to accept the consequences of his disability, teaching him to try things for himself, preparing him for a job adapted to his circumstances and giving him full assistance in finding a place in normal life.

On the other hand, society has the task of taking all measures to prevent disability as much as possible and to further legislation and social security schemes on behalf of disabled persons. Government and society must be instructed about the following facts :

(1) The disabled person has all the right to normal life and to get the most appropriate assistance in trying to reach this goal ;

(2) Rehabilitation pays for itself, at any rate when there is full employment.

Governmental support of a moral and financial character is necessary to achieve a comprehensive scheme. The task of the national teams is to draw the attention of their governments to these facts ; the moral help of the United Nations will be necessary.

Since the various governments have themselves chosen their teams to be sent out to follow this course on rehabilitation, an expert of the United Nations could do valuable work by visiting all the countries concerned and by propagating the fundamental idea of rehabilitation.

With regard to the question as to what items presented during the various lectures, demonstrations, visits to institutions and group discussions have been of the greatest value in developing our national rehabilitation services, we can say that most of the aspects are already known in the Netherlands.

Many of these aspects, however, have to be more developed, co-ordinated and incorporated in the existing medical, social and economic schemes of the country.

1. The following items especially attracted our attention :

(*a*) Lecture on the psychological effect of physical disability ;

(*b*) Lecture on occupational diseases in relation to physical disability combined with a visit to the State Institute of Public Health at Stockholm ;

(*c*) Lecture on work rationalization and job analysis ;

(*d*) Lecture on physiological and kinesiological aspects of motion studies ;

(*e*) Lecture and demonstrations on work physiology and tests of work capacity ;

(*f*) Lecture on clinical physiology as an aid to testing the work capacity of individual patients;

(*g*) Lecture on geriatrics and the rehabilitation of the aged infirm, combined with a visit to Sabbatsberg Home for old people in Stockholm ;

(*h*) Lecture on early rehabilitation of accident cases ;

(*i*) Lecture on rehabilitation and existing medical and social services in Norway ;

(*j*) Lecture on the State Rehabilitation Centre in Norway ;

(*k*) Visit to the Invalid Foundation College for Agrarian Pursuit in Mäntsälä in Finland ;

(*l*) Lecture on the care, rehabilitation and retraining after brain injuries ;

(*m*) Lecture on rehabilitation of arthritis and visit to the Rheuma Foundation Centre in Heinola in Finland ;

(*n*) Lecture on relation of occupational health to disability ;

(*o*) Lecture on the counselling of cripples and the visit to the Society and Home for Cripples in Copenhagen ;

(*p*) Lecture on orthopædic treatment of poliomyelitis and lecture with demonstrations on the treatment of spastics ;

(*q*) Demonstration in the department of physical medicine at the Municipal Hospital in Copenhagen ;

(*r*) Visit to the National Association for Infantile Paralysis ;

(*s*) Lecture and demonstrations on the training of occupational therapists ;

(*t*) Visit to the neurosis centre at Montebello near Elsinore ;

(*u*) Visit to the State Residential Centre for Hard-of-hearing Adults in Fredericia ;

(*v*) Lecture on psychiatric and psychological problems affecting rehabilitation ;

(*w*) Lecture on statistical, sociological and psychological research for disability and rehabilitation.

2. Broadly speaking, the greatest difficulties in establishing a comprehensive service for the disabled are the following :

(*a*) That the idea of rehabilitation has not yet penetrated all strata of the population and in cases where it has penetrated it is often not sufficiently understood. Consequently, the governments are not quite convinced of the need of a comprehensive scheme for rehabilitation in their countries. To establish such a scheme, private associations can play an important rôle, but the government must give its support by furnishing financial help and by introducing legislation. If the government does not provide appropriate legislation with regard to the rehabilitation of the handicapped at the right time, the problem of the unorganized growth of numerous private organizations will arise. In this way there cannot be any co-ordination or integration. Another important part of society is represented by those groups which are dealing with the problem of the disabled. In these groups we find general practitioners, medical specialists, nurses, physiotherapists, social workers, etc. If these specialists are not convinced of the real aim of rehabilitation, it will be impossible to establish a comprehensive scheme. A third group is formed by the disabled themselves. If they are not willing to co-operate in this rehabilitation scheme, we shall not be able to get any good results.

A fourth group is represented by the rest of society, which forms public opinion. If this group has not been sufficiently educated up to the idea of the right of disabled people to normal work, it will be very difficult to build up a successful scheme.

(*b*) The lack of training possibilities for the members of a rehabilitation team is another important factor.

(*c*) One of the greatest difficulties in building up such a service is the problem of unemployment. In order to overcome all these difficulties, it is of vital importance :

To make society rehabilitation-minded. The United Nations can play an important rôle in making a start with it by giving advice to governments. For further suggestions, we refer to question 4.

To give more specialized training for all the members of a rehabilitation team. See question 4.

We do not feel capable of solving the problem of unemployment, this being an economic problem.

3 (*b*). The doctors and nurses of the hospitals in the Netherlands have not yet the right insight in the rehabilitation system. This is one of the reasons why there are no physical-therapy sections in most of the hospitals, nor a social workers' department.

In regard to occupational therapy, we should like to add that this part of the rehabilitation service is carried on at present by the Red Cross Organization in many hospitals and especially in sanatoria. This side of the rehabilitation methods, however, is too isolated.

(*c*) (i) - (ii). The training of the physiotherapist and remedial gymnast is on a very high level in the Netherlands, but more specialized prosthetic training may be recommended and the psychological aspect should be given more consideration.

(iii) The training of occupational therapists does not exist at present in our country and has to be built up.

(iv) The training of social workers in the Netherlands is on a high level, but specialization in the field of rehabilitation would be desirable.

(v) The training of vocational counsellors in our country is only a very short one. Specialization in the field of rehabilitation has to be considered ; the psychological aspect has to be stressed.

(vi) There is no special training-course for D.R.O.s. They learn their job only through experience ; as their

working-field is much too large, they lack time to carry out their tasks in the most successful manner.

(vii) In the training of doctors and nurses, the importance of rehabilitation must likewise be stressed.

(*d*). A few post-hospital rehabilitation-centres have been established, but more of them are needed.

(*e*). Specialized vocational training-schools for the more severe cases must be established.

(*g*). Provision of prostheses is carried out by private enterprises. Organized medical supervision is to be highly recommended.

(*h*). There are many financial difficulties in the provision of technical aids and wheel-chairs to the disabled.

(*i*). There is no legislation in the Netherlands which covers the problem of the disabled persons. We are in need of an act concerning the rights of handicapped people to rehabilitation treatment. Furthermore, an act should be passed which covers all those cases not suitable for rehabilitative measures and not provided for in existing acts.

(*j*). There is practically no link between the hospital services and the social and industrial agencies. One of the chief reasons is the lack of social workers in the hospitals.

(*k*). Closer co-operation between the various ministries is recommended.

(*l*). There is not always enough co-operation between government authorities and voluntary agencies.

(*m*). Only a few social insurance acts give opportunities for training and employment.

(*n*). In the small communities, conditions have to be improved in order to enable handicapped persons to reach a rehabilitation centre or a hospital more easily, but we expect that all these difficulties will be solved when provincial rehabilitation services are established all over the country. The establishing of regional workshops will help to solve the problem of employment.

(*o*). The educating of public opinion on the question of human rights and the potentialities of disabled persons, and on what can be effected by modern methods of rehabilitation, vocational training and selective placement in suitable employment, has to be carried out more intensively. The Government should support this kind of propaganda.

(*p*). Integration of services for the disabled in the regular health, social and industrial services of the country has been started by establishing a comprehensive rehabilitation scheme in a few provinces; similar plans are to be carried out in other provinces.

Summarizing, we would state that it is of vital importance :

(1) To educate government and community in the rehabilitation idea ;

(2) To co-ordinate and integrate rehabilitation in the regular health and social services of the country ;

(3) To build up post-hospital rehabilitation centres in all the provinces ;

(4) Not to start building up rehabilitation services before well-trained personnel is available.

4. The United Nations and the Specialized Agencies can give further assistance in establishing and developing rehabilitation services for the disabled :

(*a*). In under-developed countries by sending out experts who will make thorough investigations concerning social, economic and health conditions of the country.

After this, they should work out rehabilitation schemes in collaboration with the authorities of the country ; furthermore, the United Nations should provided qualified members of a rehabilitation team, in order to train teams in the country itself. In some cases, financial help of the United Nations may be necessary to make a start,— for example, in establishing a rehabilitation centre.

(*b*). In countries possessing good health and social services, by sending out experts who can advise governments in building up rehabilitation services in the country ; by giving education and training to rehabilitation teams ; by providing fellowships and international training courses.

NORWEGIAN TEAM :

Our group is of the opinion that it is difficult to give a satisfactory answer to questions of such a comprehensive nature. We consider that it should take time to digest and assimilate the subject-matter which we have seen and discussed during our participation in this Course. In order to give a specific and concrete reply, we find it necessary to have more detailed information than that which we have at hand. Our reply will therefore be of a general nature.

The process of rehabilitation development in Norway has in the latest years endeavoured to follow the general principles of teamwork and co-operation between the professional groups and institutions dealing with this subject. And therefore it has been stimulating to observe that this important line has been the main subject during the whole Course. This has strengthened our own conviction that our general policy has followed the right track, and we believe that by expanding and solidifying this principle it will be of the greatest value in developing our own rehabilitation service in Norway.

1. In the scheme of rehabilitation, training and employment of the disabled, as represented by the various lectures and demonstrations, visits to institutions and group discussions of this course, we find the following items of great importance :

Research. Since rehabilitation is a relatively new field, research is a basic necessity, and we have, during the Course, seen very interesting scientific research in the form of work physiology in Sweden and sociology in Denmark.

Occupational therapy. We have observed with profound interest the extent to which occupational therapy has been applied in various institutions. We have noted that, in Denmark, a special school has been established for the thorough training and education of occupational therapists, and that this school's activity embraces a comparatively wide theoretical and practical field.

Physical medicine. We believe that the Danish method of making physical medicine a speciality is a valuable asset to rehabilitation work.

Care of deaf and hard-of-hearing. The care of the deaf and hard-of-hearing in Denmark seems to set a very good example for other countries.

Care of brain-injured. The remarkable manner in which Finland has dealt with the care of brain injuries has aroused our interest, and is quite unique in Scandinavia.

Geriatrics. Our visit to Sabbatsberg Home for the Aged in Stockholm showed us how far those old patients could be employed and re-activated. Because of the increasing number of elderly persons in our time, geriatrics are of the utmost importance in relation to the labour market situation and the existing pension systems.

Social psychiatry. The practical application of this subject seems to be of inestimable value and gives possibilities for the rehabilitation of patients with mainly psychic disturbances as well as the prevention of mental and social breakdowns.

Within the more detailed fields of rehabilitation we have been inspired by the following items :

Amputations. We have observed with interest that the question of early stump treatment has been recognized and understood in all three countries which we have visited. The important aspect of stump training has also been demonstrated with success.

Work Training. The establishment and the organization of the work-training centres for tuberculous patients in the city of Stockholm has given us food for thought, and in the same connection we have fixed our attention on the initiative taken by the municipal authorities in Aarhus.

Sheltered employment. With regard to the extent to which sheltered employment in industry has been established in Sweden, we are of the opinion that such activities cannot be applied to the same extent in Norway to-day. This idea will probably be of great value for future development of our rehabilitation service. The fact that disabled persons have been practically and gainfully employed in home industry has been clearly presented to us, and we are fully aware of the potentialities in this field. We believe that the achievement in this special field, as in so many other fields of rehabilitation, is primarily due to the well-organized governmental labour exchange service, with the D.R.O.s. as part of the whole scheme. Furthermore, the Finnish idea of engaging highly qualified artistic specialists as consultants for handicraft homework seems to be worth copying.

Vocational schools. Bearing in mind what we have seen in Finland, we presume that it is possible to re-train effectively a disabled agricultural worker within the structure of his former work. This is of special interest to our country. The Finnish schools for cripples seemed to have efficient vocational guidance, partly because they did not rely completely on testing, but utilized the possibility of observing the clients at work during a suitable period of time before the final choice of vocational training. We agree in principle with what was brought forth at a group discussion—namely, that disabled persons as far as possible should get their vocational training together with able-bodied pupils in the ordinary schools.

2. For the establishment of a comprehensive service for the disabled, many complicating factors come into play—social, economic, political, cultural and religious. Our group is of the opinion, to a greater and lesser degree, that lack of education forms the key to this whole problem and may influence some of the aforementioned factors. The central authorities should be entrusted with this task of enlightenment and the altering of certain attitudes in a country which has founded a rehabilitation service. A country lacking a rehabilitation service ought to be assisted in this task by the United Nations and WHO and other Specialized Agencies.

3. We have found the following factors to be of special importance to our own country :

(*b*) We require in Norway better medical rehabilitation facilities, and this question will be dealt with in the following sections.

(*c*) (i) The training of physiotherapists is rather good. What is lacking is that many physicians fail to appreciate and understand the rôle of the physiotherapists.

(*c*) (iii) We are in need of occupational therapists, who ought to have a broad theoretical education, and their practical scope of activity should incorporate bedside hobbycraft, functional training and preparation for return to work.

(*c*) (iv) To date we have too few social workers, but we trust that our newly established school for social workers will improve this state of affairs.

(*c*) (v) The field of vocational counselling is at present under planned expansion in Norway, but the needs of vocational counsellors are not yet satisfied.

(*c*) (vi) A regular D.R.O. service was introduced in the official Labour Exchange three years ago, but

has not yet reached the planned scope due to lack of necessary allowances. There is now no complete and satisfactory education programme for vocational counsellors and D.R.O.s. It is felt, however, that they should have a good general education, broad practical experience and a knowledge of psychology.

(*d*) Norway has no post-hospital rehabilitation centre in the English sense of the word. In principle we would appreciate such a centre. Due to the geographical conditions this would only be possible as a rehabilitation department within our largest hospitals. This department must work in closest co-operation with an industrial rehabilitation centre similar to the one now existing in Oslo.

(*e*) When the existing countrywide scheme for the establishment of psychotechnical institutes and vocational guidance offices can be realized, the estimated need might probably be covered. Concerning training centres, we are of the opinion that disabled persons should attend as far as possible the ordinary schools, but we think it is necessary to establish a number of small centres for graded occupational training.

(*g*) We think that a stricter control should be exercised concerning the manufacture and the sale of prostheses in Norway. Specialists should be employed for the training of amputees.

(*h*) A technical committee should be appointed for the improvement of all technical aids, especially wheelchairs and hearing-aids (this may be a task for WHO and WVF).

(*j*) A stronger and more intimate relationship is necessary between the medical profession, social and industrial agencies. The concept of rehabilitation and resettlement in the modern sense of the word has not yet been fully perceived by the whole medical profession. To achieve a better liaison between the aforementioned a thorough information service is necessary, as recommended by the Norwegian State Rehabilitation Committee.

(*o*) [(*k*), (*l*), (*p*)] The question of recognizing the principle of "the right to work" as one of the elementary human rights is at present under serious discussion in our country. This situation forms a special background for our approach to general problems of rehabilitation.

The demand for better public education is very great in Norway, and the State Rehabilitation Committee has proposed the appointment of a Central Standing Committee. This Committee will concern itself with a series of main tasks, amongst which are education and also the items mentioned under section (*k*), (*l*) and (*p*).

4. (*a*) If an under-developed country wished to establish an efficient rehabilitation service, our group believes that the United Nations and the Specialized Agencies could provide the material in the form of experts and equipment, in order to found a concrete basis for this scheme.

(*b*) We presume that some rehabilitation services have already been established in a country possessing good health and social services. For the further development of these services, scholarships should be granted to individuals and teams dealing with this subject. Courses and conferences should be arranged, besides interchange of certain members of the rehabilitation team if possible.

Lastly we should like to mention that the United Nations should be responsible for the international exchange of current information and literature appertaining to rehabilitation.

SWEDISH TEAM:

Owing to the short time that has been at our disposal for the preparation of this report, and also to our limited knowledge regarding many of the different problems in the field of rehabilitation, we have only been able to deal with the question in a rather general way.

1. The Course has shown in a most valuable and instructive way that rehabilitation must be a continuous process, presuming an organization without any link missing. The necessity for close co-operation and team-work at all stages has been proved. Having clearly realized these facts, we have been more aware of the gaps in our own present rehabilitation scheme. We have especially recognized that facilities for after-care in Sweden are still insufficient and that there is a need for better co-ordination between remedial gymnastics, physiotherapy, occupational therapy, work-training and employment service. The team-work demonstrated by Dr. Clemmesen and his staff at the Municipal Hospital, Copenhagen, was in this respect of great value to us.

We found it also valuable to get opportunity to compare the rehabilitation systems in Finland and in Norway, where the population is sparse and the distances great, with the system in Denmark, where the density of population is high. We have also appreciated examples of efforts to avoid segregation and to place the disabled in a normal environment.

The special rehabilitation schemes for disabled not belonging to the "classical" groups, such as cripples and TB cases, etc., were of great interest to us. In this respect, we want to mention the care for the brain-injured in Finland, which included rehabilitation programme for veterans with an incapacity up to the extent of 100 per cent. The training of spastics as well as the rehabilitation measures for the deaf and hard-of-hearing in Denmark was also very enlightening.

We also want to mention the continuous X-ray control and follow-up of poliomyelitis cases at Vanförehjemmet in Copenhagen, aiming to prevent, e.g., the development of scoliosis.

It was very interesting for us to learn about the extensive sociological investigation concerning condi-

tions of the blind, which is now going on in Denmark, as we believe that this type of investigation will give useful experience for, e.g., the selective employment of disabled persons.

Lastly, we would mention the trip to Aarhus, where the importance of psychological factors when dealing with persons receiving Public Assistance was stressed, which confirms Swedish experience in that field.

2. The greatest difficulty in under-developed countries, often with a surplus of population, seems to be due to the fact that the life of a human being is considered of little value and that the demand for his power of work is small. To create a new attitude, far-reaching social-political and political-economic proceedings are necessary. Since these problems are beyond the framework of this Course, we want only to emphasize the overwhelming tasks for the United Nations and other international agencies in this field and to stress the importance of giving countries all possible expert aid and economic support for improving their conditions in general.

As rehabilitation includes, e.g., limitation of disablement through medical and other treatment and possibilities for the disabled, securing appropriate forms of work, it is evident that it is impossible to carry out a comprehensive rehabilitation scheme in a country if basic medical services are not to some extent provided for and if there are no industrial agencies for placement of the disabled in work suited to his capacity. Therefore establishing these basic services should be the first task.

Even in countries with fairly-well-developed basic services of these kinds, it has proved, however, to be difficult to build up a comprehensive and efficient rehabilitation scheme. One of the main reasons for this may be that neither governmental nor local authorities nor public opinion in general have yet realized that medical cure alone is not enough ; medical treatment often must be followed by efforts to make the disabled fit for work and to help him to get a suitable job.

It may be difficult to make the disabled himself co-operate in this plan, as psychological factors such as anxiety and lack of self-confidence on his side may risk the attainment of rehabilitation.

Thus it is important that public opinion (disabled persons included) should be convinced about the potentialities of the disabled, when adequately trained; and

(1) That he has the same right to work as the able-bodied ;

(2) That in society adequate steps must also be taken to secure his right to appropriate work in times of economic depression with unemployment ;

(3) That the acceptance of these principles means increased security for every member of society ;

(4) That rehabilitation also means happiness and independence for the disabled and productive work for society, which seems to make good reasons for considerable investment.

If the above-mentioned conception is accepted, the practical difficulties in carrying out the scheme will begin. Development can be jeopardized by inadequate legislation or administration. Gaps in the rehabilitation programme may risk the results. Some members of the team needed for rehabilitation may have an insufficient training. With increased specialization, self-sufficiency and unwillingness to co-operate may become disastrous.

The last difficulty could and may be overcome if, in the training of all experts (medical officers, specially interested in methods of medical and psychological reinstatement, physiotherapists and remedial gymnasts, occupational therapists, social workers, interested in the personal and domestic problems of the disabled, and employment agents, who are able to advise on the choice of suitable vocation and the possibility of securing appropriate forms of work), stress is laid upon the importance of a very close co-operation with the other members of the team and detailed information given about their tasks in the rehabilitation scheme. It cannot be sufficiently emphasized that willingness to co-operate is utterly essential in rehabilitation.

3 (*a*). Even if Sweden has fairly well-developed hospital services, the establishing of new departments in the hospitals themselves is needed for certain specialities, such as orthopædics, rheumatology, psychiatrics and geriatrics. A larger number of beds is also needed for paraplegics, cerebral palsy patients and for those suffering from chronic diseases.

We want to add that the number of physicians in Sweden is about 5,000, which means 1 : 1,400 inhabitants (United States 1 : 700). About one-third of the doctors are concentrated in the four biggest cities. The need for more doctors has been recognized, but measures for increasing the number are still insufficient. The medical officers in the rural districts are responsible for the health and medical care of about 6,500 inhabitants each, a number which is considered much too high for carrying out their increasing tasks. There is in Sweden no professorial chair in social medicine. Physical medicine and rehabilitation are not recognized as independent medical specialities.

We want to stress the importance of a sufficient number of doctors, trained and interested in rehabilitation work, being available for the tasks in this field.

3 (*b*). The physiotherapist should, more than hitherto, give general treatment to the patient who is confined to bed for a long time, in order to improve his general condition and to help him to recover more quickly.

In Sweden, occupational therapy has been used for many years at different hospitals and institutions. This activity, however, is insufficient and should therefore be intensified. Occupational therapy should have the following aims :

(1) Improvement of functions ;
(2) Diversion ;
(3) Preparation for productive work and vocational training.

Occupational therapy according to the first and to the third points has not been practised to the same extent as the therapy in the second point. The reason seems, among other things, to be lack of elaborated methods for functional training therapy and necessary facilities for productive work. It is essential to make possible these two kinds of occupational therapy through research and better economical resources, so that occupational therapists—in certain cases in close co-operation with remedial gymnasts—are able to carry out a more comprehensive work in the field of rehabilitation. The number of social workers *(kuratorer)* attached to hospitals is still too small, but we hope that it will continue to increase so that a standard of one social worker per 140-200 beds can be reached ; this corresponds to the suggestions of a Royal committee.

The establishing and strengthening of work-assessment seems extremely important. The question whether work-assessment should be carried out within the hospitals or outside has been discussed. The result of the experimental work in the two small work-clinics in Stockholm and Gothenburg may be of value for further measures in this field.

3 (*c*) (i)-(ii) In the training of the remedial gymnasts, more attention should be given to electrotherapy. Because of new methods in the field of remedial gymnastics, the training may have to be prolonged or intensified.

(iii) If the above-mentioned plan (see 3 (*b*)) is accepted, it should mean that a permanent school for occupational therapy has to be established and that the training would be according to these principles.

(iv) At present there are in Sweden three schools of social work, which give two years good basic training. As the tasks of the social worker have expanded, it has been felt that there should be supplementary training for those workers who want to specialize. Even if such courses have been provided, they have been irregular and too short. Training in social case work and interviewing technique should therefore be included.

(v) - (vi) Courses and supplementary courses for D.R.O.s and vocational counsellors engaged in rehabilitation is a vital question in Sweden because of the fact that the organization has been built up so fast that many new methods have been introduced. For D.R.O.s it is necessary to have—besides their different basic training and the two-year training common for all employment service officers—comprehensive continuation courses within the service. The courses would give special social and economical aspects on rehabilitation.

In certain fields of rehabilitation—for instance, testing of abilities—the help of well-trained psychological specialists is necessary. In this connection, we therefore wish to stress the importance of a better theoretical and practical training of psychologists.

3 (*d*). The establishment of hospitals for after-care is going on but too slowly. These hospitals do not need such an expensive equipment and such a big staff as general hospitals. Some of these hospitals should take the form of medical rehabilitation centres. There should be possibilities for physiotherapy and remedial gymnastics, occupational therapy, social-work and a certain degree of work-training and work-assessment. A large gymnasium for remedial group exercises and games should be provided.

3 (*e*). Beyond what is already mentioned regarding work assessment [3 (*b*)] and training of psychologists [3 (*c*)], we wish to stress in this connection the advantage of carrying out to the largest possible extent the vocational training for disabled in training centres for the able-bodied and on common work-places within industry. The D.R.O. should stay in contact with his clients during their training.

Further, the number of work-training centres run by municipalities and county councils must be increased. During his stay in the centre, the disabled must be under medical and social supervision and have access to remedial gymnastics treatment. For severe stable cases of chronic nature, there are in Sweden sheltered workshops and home-work centres, which number must be increased as far as supplies of suitable work objects admit.

3 (*f*). The staff of D.R.O.s is at present not sufficient to give a good service at every hospital and institution, and especially not in small rural communities. A continued increasing of the staff should therefore be recommended.

3 (*g*). As for the manufacturing of prostheses, we recommend an investigation as to the possibility to start a centralized production of semi-manufactured prostheses, perhaps on a Scandinavian basis, in order to provide lower costs and shorter time of delivery.

3 (*l*). Legislation concerning rehabilitation is in Sweden rather difficult to survey. However, it may be necessary to wait some time for further development before trying to make legislation complete and more comprehensive.

3 (*m*). Concerning the disability allowances and pensions in connection with sickness and work incapacity, we should like to mention as our opinion that the allowances ought to be given in such a gene-

rous and flexible way that the disabled's wish to work is encouraged. Therefore we think it is important that even a small output of work should give him an increased income and a higher standard of living than he otherwise would get. For this purpose we think it advisable that the governmental regulation in this field should admit that a disabled man, when first taking up work again, will lose only a small amount of the financial aid earlier given to him. With increasing income of work (and of self-confidence) the diminishing of the allowances can take place on a progressive scale. We also think it is of importance for increasing his willingness to take up work again that the disabled man rests assured that, if his state of health later on is impaired, a new application in order to get a pension or other allowances will be dealt with without delay.

3 (*n*). Beyond what is mentioned above concerning D.R.O.s [see 3 (*f*)], we want to support the proposal to make positions for so-called "district physiotherapists", in order to make it possible for people living far from the hospital to get the physiotherapy or remedial gymnastics prescribed by the physician.

4 (*a*) and (*b*). As to under-developed countries, we would first refer to our statement under question 2.

We think, further, that countries possessing good health and social services as well as under-developed countries would profit if the United Nations and the Specialized Agencies undertake the following activities :

(1) To give their assistance for making rehabilitation plans suited to the conditions in the country concerned ;

(2) To arrange common courses for medical and social experts from different countries like the one we now are taking part in ;

(3) To give fellowships for individual studies concerning rehabilitation in foreign countries ;

(4) To send out experts for helping countries in establishing rehabilitation activities ;

(5) Finally, we want to stress the importance of continuous distribution of literature and other information (as, for instance, through instruction films), so as to let the different countries know about progress and experience obtained in the field of rehabilitation.

CHAPTER XIX

AN EVALUATION OF THE COURSE

The real value of such a group-training course as has been described in the preceding chapters cannot be accurately assessed for at least a year. It is not until members of the various national teams return to their own lands and attempt to put into practice what they have seen and learned that it will be possible to decide how far the Course has been successful in attaining its ends. Meanwhile, all participants were asked to express their considered opinion on the character of the programme and the general way in which the Course had been administered. The following questions were put to them, for consideration by the national teams, and a special session devoted to their replies, and also to an evaluation of the course by the Director and Assistant Director :

1. What have you approved and found most valuable in the general programme of this Course ?

2. Of what have you disapproved, or found of little value, either—

(*a*) in the subject itself ; or

(*b*) in the way in which it was presented ; or

(*c*) in the fact that it repeated something previously discussed, without adding anything new to the subject ?

3. If a similar course were to be held in the future what changes would you suggest in the general programme, remembering that the primary purpose of such a group-training course is not to increase technical knowledge of individual specialities but to provide an opportunity of studying the problem of physical disability and modern methods of rehabilitation *as a whole* ?

4. If you think that the Course was too long, or too full, what do you consider should be omitted ?

5. Should more time be given in the programme to—

(*a*) group-discussions ?

(*b*) film demonstrations ?

If so, how should the necessary time be obtained ?

6. Are there any changes which you would suggest should be made in the administrative arrangements of the Course (accommodation, transport, provision of synopses, bulletins, etc.) ?

The replies of the teams were circulated in the form of written statements, of which the following is a summary :

1. There was sincere appreciation of the programme, administration and general conduct of the Course, and agreement on all sides that it had given a comprehensive view of all aspects of rehabilitation and of the essential importance of close co-ordination and team-work in order to provide a *continuous* service for the disabled.

2. There were differences of opinion as to whether such a course should again be attempted in three different countries, with the inevitable difficulties of different economic and social conditions, and the unavoidable risk of a certain amount of repetition. Opinions varied from one country to three, though one team would also have liked a visit to the United Kingdom included.

3. There was general agreement (with a few dissentients) that the Course was not too long, but everybody agreed that it had been too full, and had not allowed sufficient time for relaxation, for a careful study of the many documents which were distributed, or for shopping and banking, etc.

4. There was agreement that, although the purpose of group-training had to be followed, more opportunity should have been given for technical specialists to study recent developments in their own speciality in the countries visited. To accomplish this aim, and at the same time lighten the programme, it was suggested that certain afternoons should have been provided with alternative programmes, during which each technical group could attend lectures or demonstrations, or meet with other groups, concerned with their own particular speciality.

5. Other means that were suggested for lightening the general programme were :

(*a*) Reducing the number of visits to institutions of similar character and purpose, even though it might involve omitting certain visits recommended by the organizing committee of the host country.

(*b*) Having film demonstrations in the evening, at a weekly social gathering. In that way more film demonstrations (which were greatly appreciated) could be held and there could be an opportunity of discussing their value.

6. Some members attending the Course felt that the programme had been somewhat over-weighted on the medical side, and one team would have preferred to see the preventive aspect of physical disability entirely excluded.

7. There was full agreement that the members of the national teams should have been selected very much earlier, so as to give them adequate time to study the preparatory literature and, if possible, to meet together to choose their leader and discuss the main items in the forthcoming programme.

8. The suggestion was made by various teams that a critical evaluation of the week's work, and of the

strong and weak points in the institutions visited, should be offered regularly by the staff.

9. All agreed on the value of group-discussions and on the advisability of increasing their number, but it was generally felt that written statements should not be expected from the groups (owing to the time wasted in preparing them in English), and that fuller opportunity should be afforded for general discussion of the group reports.

10. Other points raised by individual teams, though not always expressing the opinion of the majority of the participants, were as follows :

(*a*) That only countries which had reached a similar development of basic health, social and vocational services should be selected for each course.

(*b*) That technical specialists occupying a somewhat subordinate position in the planning and carrying out of rehabilitation services should not participate in the same course as administrators and professional leaders.

(*c*) That the study of mental disabilities of all types should have been included in the Course, including mental deficiency and psychosis.

(*d*) That lectures should not exceed 30 minutes, and that there should be fewer lectures of a highly technical character.

(*e*) That full descriptions of each patient's disability should be available at all institutions concerned in the training and employment of the handicapped.

(*f*) That the participants themselves should have been given a greater share in the programme, in addition to opportunity to take part in discussions.

After a general consideration of these various comments, Dr. O'MALLEY, Assistant Director, reminded the teams that a full and comprehensive rehabilitation service had not been seen in any of the countries visited. Many of the facets of such a service existed, but only in isolation ; integration was missing. Teamwork was present in many institutions, but the links joining such institutions, needed for a continuous programme of rehabilitation, were generally absent.

He drew attention to the enlightened and imaginative pilot scheme of the Work Clinic, associated both with the Karolinska Hospital and the Swedish Labour Market Board, but would like to have seen a greater use of medical rehabilitation in the Clinic, including a well-balanced programme of graduated physical exercises, preferably in groups. In his experience, many breakdowns, both in industrial centres and at work, are due to lack of mental and muscular tone, and it is the combination of remedial exercises and games with work-therapy which overcomes the apathy and asthenia of prolonged illness and convalescence, and increases physical capacity and willingness for work. The same lack of adequate physical rehabilitation was also apparent in other industrial and vocational centres.

Other items in the Course which had particularly impressed him were :

1. The research on work-capacity and work-psychology, and their relation to individual work-tolerance and the requirements of particular industries, as demonstrated both in Sweden and Finland.

2. The important work on the rehabilitation of the brain-injured, as carried out by Professor MAKI in Finland, and on those suffering from post-concussion symptoms, as seen at the Serafimer Hospital, Stockholm.

3. The excellent team-work of a Physical Medicine Department, demonstrated by Dr. CLEMMESEN, and the comprehensive scheme for the treatment of poliomyelitis in Denmark.

4. The important work of the Associations of the Disabled, especially in Finland.

5. The fine institutions established by the municipality of Orebro, including hospital, sports gymnasium, sheltered workshop and an excellent training school—but not yet linked in a rehabilitation service.

6. The work of the Labour Market Board in Sweden.

7. The wide range of vocational training centres in Finland, though mostly lacking adequate medical guidance and supervision.

8. The progressive work in Denmark on behalf of the blind and partially-sighted, and the deaf and hard-of-hearing, and the valuable follow-up research work undertaken in that country.

9. The valuable forum on the psychological and psychiatric problems of resettlement organized by Mr. HENNING FRIIS.

The final address was given by the Director, Dr. BALME, who commented on the positive contribution brought by the Course towards a better understanding of the team-work for the rehabilitation of the adult disabled and drew attention to certain items which were of quite unique and outstanding value. Of these he would particularly mention the following :

1. *The Relation of Scientific Research to Improved Rehabilitation Technique.* — The valuable research work being carried out at the Central Institute of Gymnastics and the Karolinska Work-Therapy Clinic, Stockholm, on the exact assessment of work-capacity and work-tolerance ; the new methods of detecting and preventing all types of occupational disease, demonstrated at the special institutes in Stockholm and Helsinki ; and the effort to find a scientific basis for work-rationalization and job analysis and to relate it to the demands of specific industries (as described in the lectures of Professor KRISTENSSON, Mr. HANMAN and Dr. KARVONEN)—all have an important bearing on rehabilitation technique. (See Chapters V and IX.)

2. *The Value of Work-therapy Clinics.* — The Work-therapy Clinic attached to the Karolinska Hospital, Stockholm, represents an important new link in the chain of continuous rehabilitation, as it bridges the gap between the end of hospital treatment and the recovery of full work-capacity and confidence in ability to return to employment. The association of expert physiological and psychological assessment and medical supervision with the carrying

out of industrial work at the Clinic under normal labour conditions provides an excellent preparation for work-resettlement. (See Chapter IX.)

3. *The Work of the State Rehabilitation Centre, Oslo*, as described by Dr. HARLEM, demonstrates the possibility of combining the diagnosis, rehabilitation and work-training of disabled people with the provision of a night-sanatorium for patients who have not yet reached a stage of stability, and travelling-teams to investigate cases of disability in other parts of the country. (See Chapter VI.)

4. *Clinical Demonstrations on Specific Types of Disability* have been particularly instructive in showing a new technique for the education in movement of spastic children and sufferers from multiple sclerosis, resulting from TEMPLE FAY's research on Pattern Movements [Chapter XIV, E] ; in a clearer understanding of the underlying causes and treatment of the Calcaneus Foot after Poliomyelitis [Dr. ROSENDAL's lecture, Chapter XIV, D], and of Low-back Pain and Sciatica [Professor FRIBERG's demonstration, Chapter XIV, A] ; in the treatment of the Post-concussion Syndrome and of disorders of the central nervous system following severe head injuries [Lectures by Dr. SILFVERSKIOLD and Professor MAKI, Chapter XIV, C] ; in the modern approach to the disabilities of old age [Chapter XIV, H] ; in the investigation and education of the hard-of-hearing [Chapter XIV, J] and the assessment and after-care of psychosomatic and neurotic disorders.

5. *The Emphasis on Work-potentiality, Training and Employment*, rather than on disability allowances and pensions, as demonstrated so convincingly in the treatment of the war-disabled in Finland. (Chapter XIII.)

6. *The Influence of Associations of the Disabled* towards the formulation and execution of practical schemes for recovery of independence and normal living, when given freedom and authority to exercise their talents in this direction. (Chapter XV.)

7. *The Careful Follow-up Research Projects*, on the after-history of disabled people, now being undertaken in Denmark. (Chapter XVI.)

8. *The Integration of Rehabilitation Projects* into the national health, social and vocational services, and into the teaching of future doctors, nurses and social workers, as foreshadowed in Dr. KARL EVANG's lecture. (Chapter III.)

Appendix A

LIST OF THE SPONSORING MINISTRIES, NATIONAL OFFICIAL ORGANIZERS, AND DIRECTORS OF THE COURSE

Sweden

The Ministry of Social Affairs, Labour and Housing.

The Ministry of the Interior and Health.

Official Representatives :

Dr. B. Åkerblad, Physician at the State Work Clinic, Stockholm.

Mr. K. Montan, Secretary of the Swedish Committee for the Care of Cripples, Stockholm.

Mr. T. Sundqvist, Assistant Secretary, Resettlement Division, the Royal Labour Board, Stockholm.

Mr. S. Heppling, Secretary, Swedish Institute, Stockholm.

Norway

Ministry of Social Affairs.

Norwegian Health Services.

Ministry of Labour.

Official Representatives :

Mr. K. J. Öksnes, Under-Secretary of State.

Dr. Karl Evang, Director General of the Norwegian Health Services.

Mr. Inge Seip, Chief of Section, Ministry of Labour.

Finland

The Ministry of Social Affairs.

Official Representatives :

Mr. Ralph Törgren, Minister for Social Affairs.

Mr. Emil Huunonen, Assistant Minister, Ministry of Social Affairs.

Mr. Eero A. Wuori, Chief of the General Department of the Social Ministry.

Mr. Niilo Kotilainen, Chief of the Bureau of Child Protection of the Social Ministry.

Denmark

The National Health Service.

The Ministry of Labour and Social Affairs.

Official Representatives :

Dr. K. H. Backer, Adviser to the National Health Service.

Mr. Th. Haarloev, Head of the International Relations Division, Ministry of Labour and Social Affairs.

Mr. F. M. Hartmann, Head of The Division for Handicapped Persons, Ministry of Labour and Social Affairs.

Course Director

Harold Balme, O.B.E., M.D., F.R.C.S., D.P.H., Consultant Adviser on Rehabilitation to the United Nations, World Health Organization and United Nations International Children's Emergency Fund.

Assistant Director

C. J. S. O'Malley, C.B.E., M.B., B.S., Medical Director, Garston Manor Rehabilitation Centre.

Project Officer

Mrs. Nuna Sailer, Doctor of Law.

Secretary

Miss Ann McMillan.

Appendix B

LIST OF PARTICIPANT STUDENTS

Austria

Mr. Karl Boc, Chief of Section, State Labour Office, Graz.

Miss Helga H. Bradel, Physiotherapist, Unfallkrankenhaus (Accident Hospital), Vienna.

Dr. Franz J. Fellner, Vocational Counsellor, Landesinvalidenamt, Vienna.

Dr. Olaf Popp, Orthopædic Surgeon, Orthopædic Hospital, Vienna.

Dr. Franz J. Ritschl, Medical Officer, Municipality of Vienna.

Miss Maria Scheinig, Social Worker, Municipality of Vienna.

Dr. Karl F. Weisbach, Orthopædic Surgeon, Consultant to Landesinvalidenamt, Vienna.

Denmark

Dr. Kaj H. Backer, Physician, Copenhagen ; Adviser to the National Health Service, Denmark.

Miss Alice Bruun, Head of Division, Ministry of Labour and Social Affairs, Copenhagen.

Mr. Poul G. Gad, Inspector, Directorate of Labour, Copenhagen.

Miss Hanne B. Heggum Nielsen, Physiotherapist at the Municipal Hospital, Copenhagen.

Miss Annalis Jørgensen, Senior Social Worker attached to the Public Employment Office, Aarhus.

Dr. Gunnar Krogh-Lund, Specialist in Physical Medicine, Chief of Clinic of Physical Medicine, Copenhagen.

Dr. Alfred W. Mortensen, Chief Physician, Society and Home for Cripples, Toldbodvej, Copenhagen.

Finland

Mr. Veikko E. Niemi, Inspector for the Care of Disabled Persons, Ministry of Social Affairs Vocational Rehabilitation Bureau, Helsinki.

Dr. Lars Olof Nyberg, Orthopædic Surgeon, Invalid Foundation Rehabilitation Centre, Helsinki.

Mr. Aarno J. Ranta, Technical Manager, Vocational Training Centre for Adult Disabled, Järvenpää.

Mr. Osmo I. Sarjamo, Social Worker, Invalid Foundation Rehabilitation Centre, Helsinki.

Mr. Antti J. Tamminen, Vocational Counsellor, Invalid Foundation Rehabilitation Centre, Helsinki.

Miss Sirkka-Liisa Tervala, Physiotherapist, Invalid Foundation, Hyvinkää.

Greece

Dr. Chryssantos Chryssanthakis, Attendant Surgeon, Asclipiion Voulas Hospital, Athens.

Mr. Panayotis Decaristos, Physical Training Instructor, Adult Rehabilitation Centre for Civilian Disabled, Athens.

Mr. Michael Dedidakis, Director, Ministry of Social Welfare, Athens.

Miss Fanny S. Mavroudi, Head of Blind Welfare Section, Near East Foundation, Athens.

Mr. Spyros S. Theologos, Director, Adult Rehabilitation Centre for Civilian Disabled, Athens.

Italy

Dr. Antonio Bajardi, Orthopædic Surgeon, Deputy Director of the Orthopædic and Traumatologic Department, I.N.A.I.L. - A.N.E.A. Hospital, Milan.

Mr. Attilio Caroppo, Labour Inspector, Ministry of Labour and Social Affairs, Rome.

Dr. Giuseppe Celano, Public Health Officer, High Commissariat of Health, Rome.

Dr. Silvio Mazzola, Radiologist and Electrotherapist, I.N.A.I.L., Rome ; San Gallicano Hospital, Rome.

Netherlands

Mr. H. J. Fikkert, Chief Physiotherapist and Remedial Gymnast, Rehabilitation Centre "Twente", Enschede.

Mr. Johannes Munnik, Inspector, Netherlands Association for the Social Care of the Disabled, Amsterdam.

Miss Hermina H. P. Post, Social Worker, Director of the Central Society for the Welfare of Cripples, Amsterdam.

Miss Hermine M.M. van Ede, Provincial Public Health Nurse for Physical Disabilities, Provincial Council of Health Organization in the Province of Gelderland, Arnhem.

Dr. Freerk B. Venema, Medical Director, Rehabilitation Centre "Twente", Enschede.

Norway

Dr. Anne-Marie Grieg, Assistant to the Chief Medical Officer, State Rehabilitation Centre, Oslo.

Miss Karen v. T. Hansteen, Physiotherapist, Sophies Minde Institute for Cripples, Oslo.

Mr. Robert McAdam, Charge Physiotherapist, State Rehabilitation Centre, Oslo.

Mr. Knut W. Nordal, Disablement Resettlement Officer, Directorate of Labour, Oslo.

Miss Jeja Rafn, Social Worker, State Rehabilitation Centre, Oslo.

Mr. Allan S. Velvin, Vocational Counsellor, State Rehabilitation Centre, Oslo.

Dr. Gustav Vig, Provincial Health Officer, Steinkjer.

Sweden

Mr. Roland Ericsson, Chief of Resettlement Section, Royal Labour Market Board, Stockholm.

Mrs. Ann-Margret Lundgren, Principal Assistant Clerk, Royal Medical Board, Stockholm.

Miss Marcelle Nordenström, Physiotherapist, Norrbacka Institute for Cripples, Stockholm.

Miss Brita Strandberg, Psychiatric Social Worker, Karolinska Hospital, Stockholm.

Mr. Curt G. T. Ström, Inspector, Division of Vocational Guidance and Youth Employment Service, Royal Labour Market Board, Stockholm.

Dr. Börje Walldius, Orthopædic Surgeon, Norrbacka Institute for Cripples, Stockholm.

Appendix C

LIST OF LECTURERS

Dr. Bengt Åkerblad, M.D., Physician at the State Work Clinic, Stockholm.

Dr. K. J. Backer, Adviser to the National Health Service, Copenhagen.

Dr. Harold Balme, O.B.E., M.D., F.R.C.S., D.P.H., Consultant Adviser on Rehabilitation to the United Nations, World Health Organization and World Veterans' Federation.

Mr. A. Bergh, Chief of Division, Royal Labour Market Board, Stockholm.

Dr. Arne Bertelsen, Acting Chief Physician, Orthopædic Hospital, Copenhagen.

Dr. Sv. Brandt, Consultant Pediatric Neurologist, Orthopædic Hospital, Copenhagen.

Dr. P. Butler, M.D., Physician to the Social Welfare Board, Chief Physician, The Sandbyhov Hospital, Norrköping, Sweden.

Dr. Sv. Clemmesen, Chief Physician, Division of Physical Medicine, The Municipal Hospital, Copenhagen.

Dr. S. Erlandsson, M.D., Chief Physician of the Sabbatsberg Homes for the Aged, Stockholm.

Dr. Karl Evang, M.D., Director of the Royal Health Board, Norway.

Prof. Sven Forssman, M.D., Professor of Occupational Hygiene, Medical Adviser to the Swedish Employers' Confederation, Stockholm.

Prof. Sten Friberg, M.D., Professor of Orthopædic Surgery, The Orthopædic Clinic at the Norrbacka Institute for Cripples, Stockholm.

Mr. Henning Friis, Economic Adviser to the Ministry of Labour and Social Affairs, Copenhagen.

Mr. Eero Hakkinen, M.A., Headmaster of the Blind School at Kuopio, Finland.

Mr. B. Hanman, B.Sc., M.A., Industrial Psychologist, Stockholm.

Dr. Gudmund Harlem, M.D., Clinical Director, The State Rehabilitation Centre, Oslo.

Mr. Charles Hedkvist, Secretary of the Association of the Blind, Stockholm.

Prof. E. Hohwü-Christensen, M.D., Ph.D., Professor of Physiology, Chief of the Royal Central Institute of Gymnastics, Stockholm.

Miss Sigrid Højer, Director, the Norrbacka Institute for Cripples, Stockholm.

Dr. Knud Jansen, Assistant Chief Orthopædic Surgeon, Orthopædic Hospital, Copenhagen.

Mr. K. Jansson, M.A., Director of Rehabilitation of the World Veterans' Federation.

Miss Eila Jarvio, Physical Therapist at the Invalid Foundation, Helsinki.

Dr. Stig Jonsater, M.D., Orthopædic Surgeon, The Norrbacka Institute for Cripples, Stockholm.

Mr. Tauno Jylhä, M.S., Chief of the Insurance-Technical Department, National Pensions Institution, Helsinki.

Prof. K. E. Kallio, Professor of Surgery at the University of Helsinki.

Dr. M. Karvonen, Chief of the Physiological Department of the Institute of Occupational Health, Helsinki.

Mr. H. H. Koch, Permanent Secretary of State, Ministry of Labour and Social Affairs, Copenhagen.

Prof. Robert Kristensson, B.A., M.E., C.Econ., Chief of the Department of Industrial Economics and Management, Royal Institute of Technology, Stockholm.

Dr. V. Laine, Head Physician of the Rheuma Foundation Centre, Heinola.

Prof. F. Langenskiold, Professor of Surgery at the University of Helsinki ; Chief Physician of the Orthopædic Hospital of the Invalid Foundation, Helsinki.

Dr. E. Larmola, Chief Physician of the Tuberculosis Sanatorium at Kiljava, Finland.

Miss Vivan Lindqvist, Head of the Disablement Resettlement Office, the Employment Service, Stockholm.

Dr. E. Luutola, Headmaster of the Vocational School of the Invalid Foundation, Helsinki.

Prof. N. Maki, Professor of Special Education at the Teachers' College School for Advanced Educational Studies in Jyväskyla, Finland ; Head of the Psychologic-Pedagogical Department of the Rehabilitation Institute for the Brain Injured (Helsinki-Haga).

Dr. Erland Mindus, M.D., Consultant Neuro-Psychiatrist to the Royal Labour Board, the National Insurance Office, and the Institute of Applied Psychology, University of Stockholm.

Mr. Karl Montan, B.A., Secretary of the Swedish Committee for the Care of Cripples, Stockholm.

Dr. John Mortens, Assistant Orthopædic Surgeon, Orthopædic Hospital, Copenhagen.

Dr. A. W. Mortensen, Chief Physician, The Society and Home for the Crippled, Copenhagen.

Mr. V. Niemi, B.S., Inspector at the Ministry of Social Affairs, Helsinki.

Dr. L. Noro, Director of the Institute of Occupational Health, Helsinki.

Mr. B. Olsson, M.Pol.Sc., Chief of Division, the Ministry for Social Affairs, Labour and Housing, Stockholm.

Dr. Torsten Oestergaard, Chief Physician, Montebello Neurosis Centre, Elsinore, Denmark.

Dr. I. Palmer, M.D., Chief of the Surgical Department I, the South Hospital, Stockholm.

Mr. E. Pelow, C.E., Director-General, the Swedish Workers' Protection Board and Chief of the Labour Inspectorate, Stockholm.

Mr. K. Persson, LL.B., Director-General, the Royal Pensions Board, Stockholm.

Dr. Eero Ponteva, Chief Physician of the National Pensions Institution, Helsinki.

Dr. Th. Rosendal, Chief Physician, X-Ray Department, Sundby Hospital, Copenhagen.

Dr. Boris Silfverskiold, M.D., Associate Professor at the Neurological Clinic of the Serafimer Hospital, Stockholm.

Dr. Nils Silfverskiold, M.D., Orthopædic Surgeon, Chief of the School for Physiotherapists at the Karolinksa Hospital, Stockholm.

Mr. A. Simonen, LL.D., Director of the Central Bureau of Municipalities ; Vice-President of the Association of Finnish Civilian and Conscript Invalids, Helsinki.

Dr. H. Simonsen, Acting Chief Physician, The Filadelfia Centre for Epileptics, Slagelse, Denmark.

Dr. Fritiof Sjostrand, M.D., Associate Professor in the Department of Anatomy, Karolinska Institute, Stockholm.

Dr. Torgny Sjostrand, M.D., Chief of the Clinical Laboratory at the Karolinska Hospital, Stockholm.

Mrs. E. Sturup, Director of The School of Occupational Therapy, Copenhagen.

Mr. T. Sundqvist, Assistant Secretary, Resettlement Division, Royal Labour Market Board, Stockholm.

Mr. A. Tamminen, M.A., Vocational Counsellor of the Invalid Foundation, Helsinki.

Dr. M. Tottie, M.D., Special Reporter, the Royal Medical Board, Stockholm.

Mr. P. Virtanen, M.A., Chief of the Vocational Rehabilitation Bureau at the Ministry of Social Affairs, Helsinki.

Miss Aino Wilskman, Physical Therapist at the Invalid Foundation, Helsinki.

Mr. Eero A. Wuori, Chief of the General Department, Ministry of Social Affairs, Helsinki.

Appendix D

PROGRAMME OF THE COURSE

DIVISION OF COURSE

8 September—30 September SWEDISH SECTION.
1 October —15 October FINNISH SECTION.
17 October —31 October DANISH SECTION.
1 November— 7 November FINAL DISCUSSIONS AND PREPARATION OF REPORTS.

DETAILS OF PROGRAMME

Monday, 8 September

Morning

Registration of Fellows at the Swedish Institute, Kungsgatan 42, Stockholm.

12.00

Official reception and lunch.

Afternoon

Sight-seeing tours, arranged by the Swedish Institute.

Tuesday, 9 September

Morning

Introductory Address at the Karolinska Hospital by Dr. Harold BALME, Director of the Course.

Lecture on **"The Problems of Physical Disability"**.

Mr. B. OLSSON, Ministry of Social Affairs.

Lecture on **"The Psychological Effects of Physical Disability"**.

Dr. E. MINDUS.

Afternoon

Demonstration of selected cases at the Karolinska Hospital illustrating the physical, psychological, social and industrial problems of physical disability, including a statement by a disabled man.

Wednesday, 10 September

Morning

Lecture on **"The Purpose and Full Content of a Rehabilitation Service"**.

Dr. Harold BALME.

Lecture on **"The Integration of Rehabilitation in Swedish Health Services"**.

Dr. M. TOTTIE.

Afternoon

Introduction of the National Teams, with short statements by a representative of each country on prevalent forms of disability and existing rehabilitation services available for the disabled. Discussions on the plan of the course, with special reference to particular objects of study by national or technical groups.

Thursday, 11 September

Morning

Lecture and Demonstration on **"The Organization and Work of a Hospital Rehabilitation Department"**.

Dr. B. AKERBLAD.

Afternoon

Visit to the **Norrbacka Institute for Cripples.**

Demonstrations by Miss Sigrid Hojer and Mr. K. Montan.

Lecture on **"The Social and Vocational Rehabilitation Work of the Norrbacka Institute"**.

Miss Sigrid HOJER.

Friday, 12 September

Morning

Group-discussion on **"The Technique of Observation"**.

Afternoon

Visit to the **Ab Liljeholmens Kabelfabrik.**

Lecture on **"The Work of the Industrial Physician"**.

Dr. G. HULTGREN.

Saturday, 13 September

Morning

Visit to the **State Institute of Public Health.**

Demonstration : Prof. A. AHLMARK.

Lecture on **"Occupational Diseases in relation to Physical Disability"**.

Prof. S. FORSSMAN.

Monday, 15 September

Morning

Visit to the **Royal Institute of Technology.**

Lecture on **"Work Rationalization and Job Analysis"**.

Professor R. KRISTENSSON.

Lecture on **"Analysing the Requirements of Jobs and the Capacities of Workers"**.

Mr. B. HANMAN.

The lectures to be illustrated by films.

Afternoon

Lecture (and Films) on **"Prevention of Accidents"**.

Mr. E. PELOW.

Forum on **"The Employment of the Disabled Man"**.

Conducted by representatives of industrial medicine, employment, trade unions, the Labour Market Board, and the disabled...

Tuesday, 16 September

Morning

Lecture on **"Physiological and Kinesiological Aspects of Motion Studies"**.

Dr. F. SJOSTRAND.

Lecture on **"Swedish Therapeutic Gymnastics"**.

Dr. N. SILFVERSKIOLD. With demonstrations.

Afternoon

Demonstration of Films at the Board of Roads and Waterways, illustrating various aspects of Rehabilitation, Training and the Employment of Disabled Persons.

Wednesday, 17 September

Morning

Lecture on **"The Rehabilitation of Orthopædic Disabilities".**
Professor S. FRIBERG.

Afternoon

Lecture on **"Limb Fitting and Prostheses".**
Dr. S. JONSATER. With demonstrations.

Demonstration of **"Technical Aids for the Disabled".**
Mr. K. MONTAN.

Thursday, 18 September

Morning

Lecture on **"Work Physiology and Tests of Work-Capacity".**
Professor E. HOHWÜ-CHRISTENSEN. With demonstration of functional tests.

Afternoon

Lecture and Discussion on **"Legislation and Social Security Schemes for the Disabled".**
Mr. K. PERSSON.

Friday, 19 September

Morning

Visit to **Sheltered Workshops for the Handicapped.**

Afternoon

Lecture on **"Clinical Physiology as an Aid to Testing the Work-Capacity of Individual Patients".** With demonstration of functional tests.
Dr. T. SJOSTRAND.

Saturday, 20 September
to
Wednesday, 24 September

A conducted tour in the country, including **Visits to Upsala, Sigtuna, Vasteras, Orebro and Gripsholm,** with demonstrations of work-training, sheltered workshops, and centres for the disabled.

Thursday, 25 September

Morning

Visit to the **Sabbatsberg Homes for the Aged.**

Lectures on **"Geriatrics, and the Rehabilitation of the Aged Infirm".**
Dr. S. ERLANDSSON and Dr. P. BUTLER.

Afternoon

Visit to the **South Hospital, Stockholm.**

Lecture on **"The Early Rehabilitation of Accident Cases".**
Dr. I. PALMER.

Friday, 26 September

Morning

Visit to the **Serafimer Hospital.**

Lecture and Demonstration on **"The Treatment of Post-concussion Disabilities".**
Dr. B. SILFVERSKIOLD, with introduction by
Dr. E. MINDUS.

Afternoon

Seminar on **"The Disablement Resettlement Officer (D. R. O.) Service".**
Conducted by Miss Vivan LINDQVIST.

Saturday, 27 September

Morning

Group-discussions on **"Co-ordination and Team-work in dealing with the Problems of the Disabled".**

Afternoon

Free.

Monday, 29 September

Morning

Lecture on **"Rehabilitation and the Existing Medical and Social Services in Norway".**
Dr. K. EVANG, Norway.

Afternoon

Lecture on **"The State Rehabilitation Centre in Norway".**
Dr. Gudmund HARLEM, Norway.

Tuesday, 30 September

Morning

Visits to various centres illustrating **"The Re-adaptation of the Disabled Man in the Normal Social Community".**

Afternoon

Reception at the City Hall, Stockholm.

Final Meeting.

Statements by the Fellows, giving their impressions of the Swedish portion of the course, with general discussion.

Social evening.

Wednesday, 1 October

Morning

Fellows leave by plane for Helsinki.

Afternoon

2.30

Official welcome at the Government Reception Apartment.

4-6 p.m.

Sight-seeing tour.

Thursday, 2 October

Morning

Opening Meeting.

Lecture on **"Social Services in Finland".**
Mr. E. A. WUORI.

Afternoon

Lectures on **"The Rehabilitation of the Physically Handicapped in Finland".**

1. Organization and Administration.
Mr. P. VIRTANEN.

2. Medical Care, Rehabilitation and Training.
Professor F. LANGENSKIOLD.

Friday, 3 October

Morning

Lectures on **"The Rehabilitation of the Physically Handicapped in Finland"** *(continued):*

3. Care of the Civilian Disabled.
Mr. A. SIMONEN.

4. Care of the War-disabled.
Mr. Kurt JANSSON.

Afternoon

Visit to the **Invalid Foundation Rehabilitation Centre,** including the Orthopædic Hospital, Vocational Training Institution, and Prosthetic Workshops.

Saturday, 4 October

Morning and Afternoon

Country tour outside Helsinki, including visits to Vocational Training Centre for the Disabled, Jarvenpaa, and

Invalid Foundation College for Training in Agricultural Pursuits, Mantsala.

Monday, 6 October

Morning

Lecture on "Selective Employment, including the Use of Sheltered Workshops and Domiciliary Employment".

Mr. Kurt JANSSON.

Lecture on "Vocational Training".

Mr. E. LUUTOLA.

Afternoon

Lecture on "The Organization, Financing and Control of Prosthetic Centres and Their Association with Limb-fitting Surgeons".

Mr. Kurt JANSSON.

Discussion.

Tuesday, 7 October

Morning and Afternoon

Lecture on "Rehabilitation and Re-training after Brain Injuries and Traumatic Paraplegia".

Professor N. MAKI.

Country tour outside Helsinki, including visits to :

Institute for Brain Injuries, Haga.

Valmula Home for Cerebral Invalids, and Kauniala Invalid Home, Kauniainen.

Suitia Training Centre for Brain-injured and Paralytics, Siuntio.

Wednesday, 8 October

Morning

Lecture on "Employment Services for the Handicapped".

Mr. V. NIEMI.

Lecture on "Vocational Assessment and Guidance".

Mr. A. J. TAMMINEN.

Afternoon

Visit to Westend Vocational Training Centre for Disabled Men.

Visit to Kolmiranta Vocational Training Centre for Women.

Thursday, 9 October

Morning

Lecture on "The Preparation of Amputation Stumps."

Prof. K. E. KALLIO.

Demonstrations on "Education in the Use of Prostheses".

Miss Aino WILSKMAN.

Miss Eila JARVIO.

Visit to the School for Crippled Children.

Afternoon

Visit to the State Hospital for Children.

Visit to the Finnish Red Cross Hospital.

Friday, 10 October

Morning

Country tour to Invalid Foundation Rehabilitation Sanatorium, Hyvinkää, and to Kiljava Sanatorium.

Lecture on "The Fight against Tuberculosis in Finland".

Dr. E. LARMOLA.

Afternoon

Return to Helsinki.

Saturday, 11 October

Free.

Sunday, 12 October

Morning

Leave by train for Heinola, spending afternoon at Vierumäka Sports Centre.

Film-show.

Evening

Visit to Training Centre for Blind Ex-Servicemen at Nynäs.

Monday, 13 October

Morning

Visit to the Rheuma Foundation Centre, Heinola.

Lecture on the "The Rehabilitation of Arthritics".

Dr. V. LAINE.

Lecture on "The Rehabilitation of the Blind".

Mr. Eero HAKKINEN, M.A.

Evening

Return to Helsinki.

Tuesday, 14 October

Morning

Group-discussion on "The Relationship of State Agencies and Voluntary Organizations in the Rehabilitation of the Disabled".

Afternoon

Visit to the Institute of Occupational Health, Helsinki.

Lecture on "The Relation of Occupational Health to Disability".

Dr. L. NORO (Paper read in Dr. Noro's absence by Dr. Karvonen),

Lecture on "Some Aspects of Physiological Measurement of Disability".

Dr. M. KARVONEN.

Final meeting.

Wednesday, 15 October

Morning

Group-discussion on "The Organization of Rehabilitation Services in a Province".

Afternoon

Visit to the National Pensions Institution.

Film-show.

Evening

Final dinner given by the National Pensions Institution.

Thursday, 16 October

Travel from Finland to Denmark.

Registration at Copenhagen.

Friday, 17 October, to Sunday, 19 October

Free period.

Monday, 20 October

Morning

Introductory Meeting.

Lectures on **"Rehabilitation Services in Denmark".**

Mr. H. H. KOCH.

Dr. K. H. BACKER.

Afternoon

Visit to the **Society and Home for Cripples, Copenhagen.**

Lecture on **"The Counselling of Cripples"** illustrated by film, and with demonstration of the Vocational Training Workshops.

Dr. A. W. MORTENSEN.

Tuesday, 21 October

Morning

Visit to **The Orthopædic Hospital, Copenhagen.**

Lecture on **"The Rehabilitation of Orthopædic and Vascular Disabilities".**

Dr. Arne BERTELSEN.

Afternoon

Lecture, with demonstrations, on **"The Treatment of Spastics".**

Dr. Sv. BRANDT and Dr. John MORTENS.

Wednesday, 22 October

Morning and Afternoon

Visit to the **Municipal Hospital, Copenhagen.**

Lecture on **"Physical Medicine in Denmark during the Last Decade"** and

"The Education of Specialists in Physical Medicine".

Dr. Sv. CLEMMESEN.

Short talks on :

"The Education of Physiotherapists".

Miss Louise HEERING.

"Occupational Therapy in a Hospital Department".

Miss WEDELL-WEDELLSBORG.

"The Social Worker in the Physical Medicine Department".

Miss EBBESEN.

"The Principles of Remedial Exercises".

Miss Astrid KROGH.

Demonstrations in the **Department of Physical Medicine.**

The principles of electromyography;

Chronaximetry;

Peripheral circulation;

Postural correction, walking exercises and the training of amputees.

Thursday, 23 October

Morning

Visit to the Institute of **The National Association for Infantile Paralysis.**

Lecture and Demonstrations on **"Radiological and Functional Testing".**

Dr. Sv. CLEMMESEN.

"The Calcaneus Foot after Poliomyelitis".

Dr. T. ROSENDAL.

Demonstrations of **"Rehabilitation Technique employed for Cases of Poliomyelitis".**

Afternoon

Visit to **School of Occupational Therapy.**

Lecture on **"The Training and Work of Occupational Therapists".**

Mrs. E. STURUP.

Friday, 24 October

Morning

Visit to **The Royal Blind Institute, Refsnaes.**

Afternoon

Visit to **The Filadelfia Centre for Epileptics, Slagelse.**

Lecture : **"Modern Problems of Epilepsy".**

Dr. H. SIMONSEN.

Saturday, 25 October

Morning

Visit to **A/S. Blifa Vocational Training Centre for Blind.**

Visit to **Neurosis Centre, Montebello, near Elsinore.**

Lecture on **"The Treatment and After-care of Neurosis".**

Dr. Torsten OESTERGAARD.

Afternoon

Sight-seeing, "Kronborg", Elsinore.

Monday, 27 October

Morning

Visits to :

Child Guidance Clinic for Deaf and Hard-of-hearing.

Introductory talk by Mr. A. H. C. HOLM.

The Kindergarten at "Kongens Have".

(Hard-of-hearing children attending a regular kindergarten.)

Hearing Clinic, Copenhagen.

Introductory talk by Dr. H. EWERTSEN.

Afternoon

Visit to **The Psychotechnical Institute, Copenhagen,** and demonstration.

Introductory talk by Mr. Poul BAHNSEN.

Tuesday, 28 October

Morning

Departure by bus for Jutland.

Afternoon

Visit to **State Residential Centre for Hard-of-hearing Adults, Fredericia.**

Introductory talk by Mr. Sv. VOGNSEN.

Wednesday, 29 October

Morning

Visit to **Seaside Hospital, Juelsminde,** for the treatment of tuberculosis of joints and bones.

Introductory talk by Dr. Hans THOMSEN.

Afternoon

Visit to **Municipal Tuberculosis Dispensary, Aarhus.**

Introductory talk by Dr. K. BUHL.

Reception at the Town Hall, Aarhus.

Thursday, 30 October

Morning

Demonstration of Community Rehabilitation Schemes and Workshops :

Short lectures by Mr. Orla JENSEN, and Dr. H. KJEMS.

Afternoon

Inspection of flats for old people.

"Psychiatric and Psychological Problems affecting Rehabilitation".

Forum conducted by Mr. Henning FRIIS, Dr. Jan SACHS, Mr. HOECK-GRADENWITZ and Dr. Karl TEILMANN.

Departure by boat for Copenhagen.

Friday, 31 October

Morning

Lecture on **"Statistical, Sociological and Psychological Research on Disability and Rehabilitation".**

Mr. Henning FRIIS.

Afternoon

Group-discussion on "The Rôle of the Social Worker in Rehabilitation".

Saturday, 1 November
to
Tuesday, 4 November

Preparation of Reports by National Teams.

Wednesday, 5 November

Morning

Film-show.

Reception at Town Hall, Copenhagen.

Afternoon

Group-discussion on **"How best to educate Public Opinion regarding the Problems of Rehabilitation".**

Thursday, 6 November

Morning

Distribution and study of National Reports.

Afternoon

Discussion of Part I of National Reports relating to the Evaluation of the Scheme of Rehabilitation Services.

Friday, 7 November

Morning

Discussion of Part II of National Reports relating to the Character of the Course.

Course ends.

Appendix E

LIST OF INSTITUTIONS VISITED

1. Hospitals, Clinics and Rehabilitation Centres

Child Guidance Clinic for Deaf and Hard-of-hearing, Copenhagen

The Child Guidance Clinic for Deaf and Hard-of-hearing, which is run by the State, undertakes the examination of children who are deaf or hard of hearing, particularly those of pre-school age, and provides guidance for the parents, carrying out visits to the homes.

Pedagogic, medical, psychological and audiological experts are attached to the Clinic. The Clinic works in close co-operation with the State residential schools for the deaf and hard-of-hearing and the State hearing-clinics.

Filadelfia Centre for Epileptics, Slagelse, Denmark

The Filadelfia Centre for Epileptics, which is the centre for the treatment of epileptics in Denmark, is a private institution subsidized by the State. Four small homes are attached to the Centre and an additional number of patients are placed, under supervision, with private families in the neighbourhood. In addition there is a department for the treatment of neurosis.

Finnish Red Cross Hospital

This hospital, which was erected in 1932 on the inspiration of Field-Marshal Mannerheim, contains 260 beds and is the main surgical hospital in Helsinki.

Hearing Clinic, Copenhagen

The Hearing Clinic, Copenhagen, together with two other State hearing clinics, is responsible for examining the hard-of-hearing with a view to granting hearing-aids and giving guidance in their use. Since 1 April 1950, hearing-aids have been distributed free of charge to persons insured against invalidity.

Home for Chronic Invalids, Orebro, Sweden

This hospital, which has recently been completed, is designed to take 120 patients and is organized as a diagnostic centre as well as a therapeutic centre for the chronic sick.

Institute for Brain Injuries, Haga, and the Valmula Home for the Disabled, Kauniainen, Finland

The Institute of Haga belongs to the Disabled Ex-Servicemen's Association. It is a small neuro-psychiatric hospital for brain injuries containing 25 beds.

The Valmula Home contains 31 beds for helpless war veterans with brain injuries, all of whom are incapacitated to the extent of 100 per cent. Patients are transferred here from the Haga Institute. The home is controlled by the same matron as the Kauniala Institute, situated a few miles away.

Institute of the National Association for Infantile Paralysis, Copenhagen

The principal activities of the National Association for Infantile Paralysis, Tuborgvej, consist of running the Research and Treatment Institute for persons suffering from infantile paralysis. It provides out-patient care for some 100 patients a day. The cost is met by the contributions of the Association and by privately collected funds.

Invalid Foundation Rehabilitation Centre, Helsinki

The Invalid Foundation was established in 1940 on the initiative of the Ministry of Social Affairs, to provide treatment, rehabilitation and training for war invalids and their dependants. It includes well-equipped institutions in Helsinki and other cities, those in Helsinki comprising an Orthopædic Hospital of 150 beds with full facilities for medical rehabilitation ; a Vocational Guidance Department ; a Vocational School with 200 pupils ; Orthopædic Shoe Shop and Prosthetic Workshop. A School for Crippled Children occupies the same grounds.

Invalid Foundation Rehabilitation Sanatorium, Hyvinkää, Finland, and *Kiljava Sanatorium, Finland*

The Sanatorium at Hyvinkää functions as part of the Invalid Foundation Hospital, and is specially used for the post-hospital rehabilitation of patients needing further reconditioning by means of remedial gymnastics, hydrotherapy, etc. It contains 85 beds, of which 25 are reserved for children. The Kiljava Sanatorium is for cases of tuberculosis.

Karolinska Hospital, Stockholm

The Karolinska Hospital—Karolinska Sjukhuset—contains 1,500 beds, and, with its 14 clinics, offers all the facilities of a modern hospital. It is affiliated to the State Medical School, Stockholm. The first clinic was opened in 1939, for radiotherapy, and is known as the King Gustav V's Jubilee Clinic. Further clinics are under construction.

Municipal Hospital Department of Physical Medicine, Copenhagen

The Department of Physical Medicine uses 50 of the beds in the Hospital. In addition, a large number of out-patients receive care. A workshop providing remedial exercises and occupational therapy is attached to the Department.

Municipal Tuberculosis Dispensary, Aarhus, Denmark

The Municipal Tuberculosis Dispensary, run by the Municipality of Aarhus, with State subsidy, is responsible for the preventive work as well as the control of tuberculosis and carries out inspections of homes and examinations in schools and institutions.

Neurosis Centre, Montebello, Elsinore, Denmark

The Neurosis Centre, which was opened about a year ago, is run jointly by the Copenhagen Municipality and the counties of Copenhagen and Frederiksborg. It accommodates some 100 patients, recommended for admission by physicians and hospitals in the areas concerned.

Orthopædic Hospital, Copenhagen

This modern hospital belongs to the Society and Home for Cripples, founded by Pastor Hans Knudsen, and will always be associated with the name of Dr. Guildal, one of its chief surgeons. It has 225 beds and a large out-patient department, including a special unit and kindergarten for spastic children.

RheumaFoundation Centre, Heinola, Finland

The Rheuma Foundation Centre at Heinola consists of a modern hospital of 320 beds, entirely devoted to the treatment and rehabilitation of patients suffering from arthritis and other forms of the rheumatic disorders.

Sabbatsberg Homes for the Aged, Stockholm

The Sabbatsberg Homes for the Aged are a municipal institution, with accommodation for about 350 in departments for the aged, and a further 370 under institutional care. It was founded in the eighteenth century, and includes a variety of old and modern buildings.

Seaside Hospital, Juelsminde, Denmark

The Seaside Hospital, a sanatorium run by the National Anti-Tuberculosis Association with State-subsidy, accommodates some 130 patients, including about 40 children.

Serafimer Hospital, Stockholm

This is the oldest hospital in Stockholm and was originally used for all types of acute cases. Its work is now confined to neurological and psychiatric cases.

South Hospital, Stockholm

The South Hospital, Stockholm, is one of the largest and most modern hospitals in Sweden, and was erected by the City of Stockholm. It is planned and built on original lines and contains 1,200 beds and 13 clinics, with an out-patient attendance of about 1,000 daily.

State Hospital for Children, Helsiuki

This is one of the finest children's hospitals in Europe, and its Chief Physician, Professor Ylppo, has an international reputation as a pædiatrician. The hospital, which contains over 200 beds, is built in five separate units, so that premature babies, children with infective conditions, etc., can be easily isolated or given appropriate conditions.

State Residential Centre for Hard-of-hearing Adults, Fredericia, Denmark

The State Residential Centre for Hard-of-hearing Adults provides for adults who are extremely hard of hearing and who are faced with special difficulties. They are admitted to the Centre through the State hearing-clinics. The institution provides instruction in lip-reading and in the use of hearing-aids.

State Work Clinic, Stockholm

This Clinic is situated close to Karolinska Hospital, and provides an opportunity for those who have completed their treatment and medical rehabilitation to be carefully tested, physiologically and psychologically, as to their work-capacity, and to attempt regular work under careful supervision.

2. Institutions for the Disabled

Children's Castle, Helsinki

This institution, which was founded by Field-Marshal Mannerheim, is specially intended for the investigation and care of children from unhappy or unsatisfactory homes needing expert assistance and guidance. It is also largely used as a training institution for those who will have the care of children.

Kindergarten at "Kongens Have" (Hard-of-hearing children attending a regular Kindergarten).

Six children who are hard of hearing have been admitted for the time being by way of experiment to the Kindergarten, which is intended for 60 children of pre-school age with normal hearing. These six children receive regular instruction in articulation.

Norrbacka Institute for Cripples, Stockholm

The Norrbacka Institute was started on a small scale sixty years ago and now provides crippled children and adults with a complete service, including an orthopædic hospital, out-patients' clinic and workshop, schools for primary and secondary education, and vocational training. It also extends its service to cripples needing sheltered employment or work at home.

Royal Blind Institute, Refsnaes, Denmark

The Royal Blind Institute, which is run by the State, includes a home for blind children of pre-school age ; a residential school for blind and partially-sighted children of school age and a home for elderly blind women. In addition, a home, "Raklevgarden", exists for young blind men who are not able to continue the usual vocational training for the blind at the Royal Blind Institute in Copenhagen. A similar, but private and State-subsidized institution for young blind women, is attached to the institute.

School for Crippled Children, Helsinki

This school was for many years in cramped quarters in the centre of the city but now occupies a splendid new building close to the Invalid Foundation. It is a private institution, offering full education, vocational handicrafts and physical treatment (physiotherapy and remedial gymnastics) to 120 children of both sexes.

Society and Home for Cripples, Copenhagen

The Society and Home for Cripples is a private, State-subsidized institution, half of the members of its Governing Body being nominated by the State. The Institution runs two orthopædic hospitals—one in Copenhagen and one in Aarhus—with out-patient departments and workshops for the production of surgical appliances, as well as out-patient departments with similar workshops in a few provincial towns. The institution also runs a residential school for crippled children and a handicraft school in Copenhagen. It is planned to open two homes for the treatment of spastic children in the latter part of 1952.

3. Vocational Training Centres

A/S. Blifa Vocational Training Centre for Blind, Copenhagen

The Blifa Vocational Training Centre for Blind, which is a lock factory, is run by the National Association of the Blind for the purpose of training the blind under normal working conditions as industrial workers for open industry.

Invalid Foundation Agricultural College, Mäntsälä, Finland

The Invalid Foundation College at Mäntsälä was founded in 1940 for war invalids and war orphans, providing a two-years' course of training in agricultural pursuits, gardening, and allied trades.

Järvenpää Vocational Training Centre, Finland

The Vocational Training Centre at Järvenpää is under the auspices of the Association of Finnish Civilian and Conscript Invalids, and was founded in 1947. It offers a two-to-three-years' course of vocational training, in twenty different trades or vocations, to approximately 300 students, both men and women.

Kauniala Institute in Kauniainen, Finland, and *Suitia Training Centre for Brain-injured and Paralytics, Siuntio, Finland.*

These two institutes belong to the Disabled Ex-Servicemen's Association. The Kauniala Institute affords asylum and work in specially adapted workshops for 100 patients suffering from severe head wounds ; the Siutia Institute occupies an old historic castle, and provides treatment and training for 70 brain invalids. This castle belongs to the State, but the Disabled Ex-Servicemen's Association has been allowed to fit it up as one of their centres.

Kolmiranta Vocational Training Centre for Women, Finland and *Westend Vocational Training Centre, Helsinki.*

The Kolmiranta and Westend Vocational Schools have been established by the Association of Finnish Civilian and Conscript Invalids. The Kolmiranta Centre, founded in 1944, provides elementary school education for 25 disabled women (one-year course) and a two-years' course of vocational training in various handicrafts for a further 35 female students. The Westend Centre, founded in 1942, offers a two-to-three-years' course of training in metal work, fine mechanics, engraving work or gardening to 70 disabled men.

Nynäs Training Centre for Blind Ex-Servicemen, Finland

The Training Centre for Blind Ex-Servicemen at Nynäs was founded by the Finnish Red Cross in 1940, and offers vocational training to 20 war-blinded men.

Orebro County Council Vocational Training Centre, Orebro, Sweden

The County Council of Orebro has since April 1948 run a work-training centre for handicapped persons resident in the county.

Training is not given for any special kind of invalidity, but the centre accepts persons suffering from both physical and psychological impediments to work and also persons who are socially afflicted. Persons at the centre receive continuous medical attention.

Psychotechnical Institute, Copenhagen

The Psychotechnical Institute is run by the Copenhagen Municipality. It offers vocational guidance, using psychotechnical tests, to persons desiring to be trained. It is also used for the selection of personnel. The Institute carries out for a number of public institutions psychotechnical examinations of handicapped persons with a view to their vocational training.

Vocational Training Centre of the Society and Home for Cripples, Copenhagen

The school has accommodation for 115 male and 75 female pupils, aged from about 16 to 22 years ; of these pupils, 90 and 60 respectively live at the home attached to the school. The male pupils are trained as painters, shoemakers, tailors, cabinetmakers, watch-makers, clockmakers, upholsterers and typographers. Female pupils are trained as milliners, dressmakers and weavers. Besides, male and female pupils alike are trained in office work.

4. Employment Agencies and Sheltered Workshops

AB Carex Sheltered Workshop.

ASEA Company, Vasteras, Sweden.

ASEA AB Liljeholmens Kabelfabrik, Stockholm.

Community Workshops, Aarhus, Denmark.

Employment Exchange, Vasteras, Sweden.

Nyman Bicycle Factory and Semi-Sheltered Workshops organized by the Uppsala County Council and the Factory, Uppsala, Sweden.

Orebro County Council Workshops, Orebro, Sweden.

Swedish Shale Oil Company.

Training Workshop and Work-centre for those suffering from Pulmonary Tuberculosis (organized and financed by the Municipality of Stockholm with a grant from the Swedish Settlement Mission).

5. Educational and Research Institutes

Institute of Occupational Health, Helsinki

This Institute, which was only recently completed, was a gift from the Rockefeller Foundation and is one of the most modern institutions of its kind. It now employs 105 staff members, and is splendidly fitted up with research laboratories, lecture theatres and demonstration departments, for the investigation and teaching of all forms of occupational disease. It also sends out teams of skilled experts to carry out investigations in industrial plants, and advise on methods of improving the health and safety of the workers.

Royal Central Institute of Gymnastics, Stockholm

The Central Institute of Gymnastics was founded in 1813 by Per Henrik Ling, "the father of gymnastics". In addition to a physiological department, the present Institute includes a school with international reputation, which provides full courses of training and diplomas for teachers of gymnastics and sports, and for physiotherapists.

Royal Institute of Technology, Stockholm

This Institute belongs to the State, and is excellently equipped with laboratories, workshops, lecture rooms, etc., for all forms of technical research and instruction.

School of Occupational Therapy, Copenhagen

The School of Occupational Therapy is a private institution in receipt of State subsidy. Training at the School extends over two years, which is in addition to six months' practical work in hospitals or social institutions. Twenty pupils can be trained at a time in the school.

State Institute of Public Health, Stockholm

The State Institute of Public Health was founded in 1941, with the purpose of conducting research in public hygiene, food hygiene and industrial health, and to deal with specific problems submitted by health authorities. It also conducts courses for medical and public health officers, nurses, etc.

* * *

The National Pensions Institution, Helsinki

The National Pensions Institution administers the National Insurance Law of Finland, which came into effect in 1939 and provides old-age and invalidity pensions for the whole population.

Appendix F

LIST OF OFFICIAL RECEPTIONS

Date	*Host*	*Place*
1952		
8 September	Swedish Institute	Hogloftet Restaurant, Skansen
25 September	International Society for the Welfare of Cripples	Norrbacka Institute, Stockholm
30 September	City of Stockholm	City Hall, Stockholm
1 October	Ministry of Social Affairs, Finland	Government Reception Apartments, Helsinki
3 October	City Board of Helsinki	Town Hall, Helsinki
15 October	National Pensions Institution, Helsinki	Restaurant Tullinpuomi, Helsinki
29 October	Municipality of Aarhus	Town Hall, Aarhus
2 November	Ministry of Labour and Social Affairs, Denmark	Christiansborg Castle, Copenhagen
5 November	City of Copenhagen	Town Hall, Copenhagen

Appendix G

LIST OF FILMS DEMONSTRATED

"A New Beginning" . .	General Rehabilitation
"Journey Back"	The Rehabilitation of the Hemiplegic
"Rehabilitation in Industry"	The Luton Rehabilitation Workshop
"Swinging into Step" .	Amputees
"Accent on Use" . . .	Physiotherapy
"Poliomyelitis, Diagnosis and Treatment" . . .	Poliomyelitis

In addition to the above, the following films were shown by lecturers or at institutions visited during the Course :

"It Happened on the Job"	Shown by Mr. Edwin PELOW after his lecture on "Workers' Protection Against Injury to Health and Accidents".
"Electromyographic Studies of Posture" . . .	Demonstrated by Dr. FLOYD, of the Department of Physiology, Middlesex Hospital, University of London.

Films on "The Activities of the ASEA Company, Sweden".

A film demonstrating the use of the Krukenberg operation and the possibility of employing a properly fitted prosthesis on a Krukenberg stump was shown by Professor KALLIO.

A film prepared by the National Association against Tuberculosis in Finland was shown after Dr. LARMOLA's lecture on "The Fight Against Tuberculosis in Finland".

Two films illustrating the human value of Old-age and Invalidity Pensions were shown by the National Pensions Institution, Helsinki.

A film on "The Problem of the Crippled Child" was shown at the Society and Home for Cripples, Copenhagen.

A film on the treatment of amputees was shown by Dr. Arne BERTELSEN, Copenhagen.

A film on "Pattern Movements", devised by Dr. Temple FAY, of California, was shown at the Orthopædic Hospital, Copenhagen.

A film demonstrating the various stages in the rehabilitation and training of a severe case of paraplegia after poliomyelitis was shown by Dr. CLEMMESEN, Copenhagen.

Appendix H

LIST OF BOOKS ON REHABILITATION DISPLAYED

Author	*Title of Book*	*Publishers*	*Price*
American Medical Association	Handbook of Physical Medicine and Rehabilitation	Blakiston Co., Philadelphia	$4.25
Bach, Francis	Recent Advances in Physical Medicine	J. & A. Churchill, London	£1 7s. 6d.
Barker, Roger G.	Adjustment to Physical Handicap and Illness	Social Science Research Council, 230 Park Avenue, New York	$2.00
Berg, Roland H.	Polio and its Problems	Lippincott Co., Philadelphia	$3.00
Bridges, Clark D.	Job Placement of the Physically Handicapped	McGraw Hill Book Co., New York	$4.00
Buchwald and Rusk	Physical Rehabilitation for Daily Living	McGraw Hill Book Co., New York	
Collis, Eirene	A Way of Life for the Handicapped Child : A New Approach to Cerebral Palsy	Faber & Faber, London	10s. 6d.
Colson, John H. C.	The Rehabilitation of the Injured : Vol. 1—Occupational Therapy Vol. 2—Remedial Gymnastics	Cassell & Co., London Cassell & Co., London	15s. £1 10s.
Daniel, Earle H.	Amputation Prosthetic Service	Williams & Wilkins Co., Baltimore	$7.00
Dunton, W. R., & Licht, S.	Occupational Therapy, Principles and Practice	C. C. Thomas, 325 East Lawrence Avenue, Springfield, Illinois	$6.00
Ferguson, T., MacPhail, A. N., and McVean, Margaret I.	Employment Problems of Disabled Youth in Glasgow	H.M. Stationery Office, London	
Hamilton, Kenneth W.	Counselling the Handicapped in the Rehabilitation Process	Ronald Press Co., New York	$3.50
Hanman, Bert	Physical Capacities and Work Placement	Nordisk Rotogravyr, Stockholm	
Hern, K. M.	Physical Treatment of Injuries of the Brain and Allied Nervous Disorders	Williams & Wilkins Co., Baltimore	$4.00
Horst, Paul	The Prediction of Personal Adjustment	Social Science Research Council, 230 Park Avenue, New York	
Hunt, J. McV., and Kogan, Leonard	Measuring Results in Social Casework	Family Service Association of the United States	
Hunt, J. McV., Blenkner, Margaret, and Kogan, Leonard S.	Testing Results in Social Casework	Family Service Association of the United States	
Hurlin, Ralph G., Saffian, Sadie, and Rice, Carl E.	Causes of Blindness among Recipients of Aid to the Blind	Federal Security Agency, Washington	
International Labour Office	Vocational Training of Adults, including Disabled Persons. Part 1	International Labour Office, Washington	
International Poliomyelitis Congress	Poliomyelitis : Papers and Discussions	J. B. Lippincott Co., Philadelphia	$5.00
Jacobs, Arthur T.	How to Use Handicapped Workers	National Foreman's Institute, Deep River, Connecticut, U.S.A.	$1.50
Kelham, R. D. L., and Perkins, G.	Amputations and Artificial Limbs	H. K. Lewis Co., London	5s.
Kendall, Henry O.	Muscles, Testing and Function	Williams & Wilkins Co., Baltimore	$7.50
Kessler, Henry H.	The Principles and Practices of Rehabilitation	Lea & Febiger, New York	$9.00
Kessler, Henry H.	Rehabilitation of the Physically Handicapped	Columbia University Press, New York	$3.50
Kovacs, Richard	A Manual of Physical Therapy	Lea & Febiger, New York	$3.75
Kraus, Hans	Principles and Practice of Therapeutic Exercises	Charles C. Thomas, Springfield, U.S.A.	$6.50
National Society for Crippled Children and Adults	Cerebral Palsy Equipment	National Society for Crippled Children and Adults, 11, South La Salle Street, Chicago	$3.75
Pattison, H. A.	Rehabilitation of the Tuberculous	H. K. Lewis Co. London	£1 11s. 6d.

Author	*Title of Book*	*Publishers*	*Price*
Pohl, John F.	Cerebral Palsy	Bruce Publishing Co., 2642 University Avenue, St. Paul, Minn., U.S.A.	$5.00
Ruesch, Jurgen	Chronic Disease and Psychological Invalidism	University of California Press	
Rusk, Howard, and Taylor, E. J.	New Hope for the Handicapped	Harper & Bros., New York	$3.00
Select Committee on Estimates	Training, Rehabilitation and Resettlement, Report of Select Committee on Estimates	H.M. Stationery Office, London	
Smith, Olive Guthrie	Rehabilitation, Re-education and Remedial Exercises	Bailliere, Tindall & Co., London	£1 10s.
Watson, Leland A.	Hearing Tests and Hearing Instruments	Williams & Wilkins Co., Baltimore	$7.00
Welford, A. T.	Skill and Age	Nuffield Foundation and Oxford University Press	
Wilkins, Leslie T.	Survey of the Prevalence of Deafness in the Population of England, Scotland and Wales	British Central Office of Information, London	
Willard, Helen and Spackman	Principles of Occupational Therapy	J. B. Lippincott Co., Philadelphia	$5.00
Yost, Edna	Normal Lives for the Disabled	Macmillan Co., New York	$3.00

Appendix I

STATISTICS CONCERNING DISABILITY AND THE ECONOMIC VALUE OF REHABILITATION

The following statistics were supplied by Mr. B. Olsson in the course of his lecture on "The Problem of Disability." (See Chapter IV.)

In the United States, according to a special investigation in 1942, 8.5 million persons of employable age (16 to 64) were physically handicapped and requiring selective placement ; 1.2 million required rehabilitation before being fit for employment ; and 400,000 required extensive rehabilitation followed by sheltered employment.

A more recent survey, in connection with efforts to increase the labour force for the rearmament programme, estimated that there were at least 2 million people of employable age who could be put to useful work after rehabilitation ; that not less than 73 per cent of this number had been engaged in gainful employment prior to their disability ; and that a further 250,000 become disabled every year to the extent of needing rehabilitation before being fit to undertake productive work.

Of other countries :

The United Kingdom has approximately 900,000 names on the Disabled Persons Register, of whom all but 44,000 are classified as capable of work under normal industrial conditions :

3.7 per cent of the total labour force in Rheinland Westphalen (where there is a law concerning the compulsory employment of a quota of disabled persons) are said to be seriously disabled ;

Norway reported having 14,000 crippled people in 1949 ;

Finland had 200,000 physically handicapped in 1945, including 45,000 ex-service men ;

Sweden had 60,000 disabled persons of employable age in 1947 ;

Belgium had 457,000 disabled persons registered in 1950, though not all were in need of rehabilitation ;

Netherlands had 29,000 disabled persons registered at employment offices during the first half of 1950 ;

Italy is said to have approximately 500,000 disabled ex-servicemen, Austria 625,000 and Canada 150,000.

The great discrepancy in these figures is due to the lack of any agreed international definition as to what constitutes disability, and to the fact that in no country is there a comprehensive register of all types of physical handicap ; but, on an average, it may be reckoned that, in most countries, 3 to 5 per cent of the total labour force need some form of rehabilitation before they have any possibility of obtaining employment.

Of the chief causes of physical disability, medical conditions (diseases of the heart and circulation and other organic systems) account for over 40 per cent ; orthopædic and traumatic cases approximately 30 per cent ; and tuberculosis about 20 per cent.

Although war caused a great increase in the number of the disabled, it should be remembered that, during the Second World War, whilst 265,000 men became permanently disabled in the United States, 1,500 blinded, and 17,000 lost one or more limbs, during that same period 1,250,000 civilians became permanently disabled by accidents, 60,000 blinded, and 120,000 amputees.

As regards the economic aspect of the problem, it should be noted that, during the year 1950, the number of disabled men trained and placed in appropriate employment in the United States was 59,000, and the average cost of their rehabilitation and training was 500 dollars a head ; but that during the *first* year after rehabilitation their average earnings were 1,600 dollars each, and that in most cases this amount would increase from year to year.

Another investigation has shown that the cost to the United States of maintaining 125,000 disabled ex-servicemen from the Second World War who have since undergone rehabilitation and found employment was formerly 12 million dollars annually; that the actual cost of their rehabilitation and training worked out, on average, to 300 dollars each ; and that for every dollar so spent on their rehabilitation the Federal Government is securing a return of ten dollars by way of income tax, to say nothing of the immense gain in the men's morale and productive capacity.

Surveys of disabled persons placed in employment after rehabilitation and training have shown conclusively that their productivity, efficiency and reliability compare favourably with non-disabled persons employed on the same work. The following is a report prepared by the Bureau of Labor for the Veterans' Administration in the United States (Bulletin 923) on "The Performance of Physically Impaired Workers in Manufacturing Industries" :

"The objective measures of work performance in this report reflect the experience of about 11,000 impaired and 18,000 matched unimpaired workers ; all of whom were subject to the same job-incentives, and exposed to the same job-hazards. These records are taken from data kept by the industry itself. They show conclusively that a physically impaired person is not necessarily a handicapped worker. When given reasonable job placement—that is to say, when the individual's abilities are balanced against the requirements of the job—physically impaired workers, as a group, were fully able to compete successfully with unimpaired workers similarly placed.

"An examination of the work-performance figures in the attached table makes it at once apparent that the outstanding feature of the comparison is the similarity between the impaired and the unimpaired worker. Differences in the measures of work-performance in the two groups were, for the most part, fractional, *with the balance slightly in favour of the impaired worker group*, and the impaired workers produced at a slightly better rate, with relatively fewer disabling injuries, than the unimpaired workers employed on identical jobs. The two groups had identical frequency rates of non-disabling injuries, and the average rates of absenteeism showed only nominal differences. Although the voluntary "quit rate" was higher for the impaired group, it is questionable whether the difference has any significance.

"It was equally true of the impaired and the unimpaired workers that some had exceptionally good records and a few very poor. It would be absurd to assume that the existence of a severe physical impairment automatically makes the individual a better worker. But the results of the study indicate that the assumption that a physical impairment makes a man a less efficient or a less dependable worker is equally unsound. These characteristics are possessed in the same infinite variety and degree by impaired and by unimpaired persons alike, and undoubtedly influence an individual's performance. But it seems reasonable to conclude, on the basis of this survey, that physical impairment did not produce an adverse effect on either the quantity of work turned out or on the quality of performance. No matter how different these physically impaired persons may have been in other respects, on the job they were just another group of workers, able to meet their unimpaired fellow-workmen on an equal competitive footing."

Work performance of workers with serious physical impairments, and of matched unimpaired workers

Group	Absenteeism frequency rate [1]	Non-disabling injury frequency rate [2]	Disabling injury			Output relative [6]	Quit rate [7]
			Frequency rate [3]	Time-lost rate [4]	Average days of disability [5]		
	Average performance						
Total							
Impaired. . . .	3.8	9.9	8.9	0.10	14.5	101.0	3.6
Unimpaired. . .	3.4	9.9	9.5	0.11	14.9	100.0	2.6
Male							
Impaired. . . .	3.6	10.1	9.3	0.11	14.7	100.3	3.3
Unimpaired. . .	3.2	10.1	10.0	0.12	15.0	100.0	2.3
Female							
Impaired. . . .	6.4	7.0	2.5	0.01	6.0	103.3	6.9
Unimpaired. . .	6.5	6.9	1.3	0.01	6.3	100.0	5.3

[1] Number of days lost per 100 scheduled work-days.
[2] Number of injuries per 10,000 exposure-hours.
[3] Number of injuries per 1,000,000 exposure-hours.
[4] Number of days lost for disabling injury per 100 scheduled work-days.
[5] Number of days of disability per disabling injury.
[6] Percentage relationship of production efficiency of impaired to that of matched unimpaired.
[7] Number of voluntary quits per 100 employees in the survey group.

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